

## **GOOD MORNING TEST (GMT)**

**SEPTEMBER 2024**

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## **POLITY AND GOVERNANCE**

### **1. Citizenship in India**

**Q. With reference to the 'Citizenship in India' consider the following statements.**

1. After June 1987, India followed the 'jus soli' principle granting automatic citizenship to anyone born in India.
2. If a person were born in India after January 26, 1950, but before July 1, 1987, He/she is automatically an Indian citizen, regardless of the nationality of parents.
3. A person of Indian origin who has lived in India for at least 7 years can become a citizen of India by registration.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 1 and 2
- (c) 2 and 3
- (d) 3 only

**Answer: (c) 2 and 3**

**Explanation:**

**In NEWS:** U.S. President Donald Trump issued an executive order stating that U.S. citizenship will be granted in the future only to children with parents holding U.S. citizenship or a U.S. green card.

- A federal court in the State of Washington has temporarily stayed the order stating that it is 'blatantly unconstitutional.'

**Legal principles:**

- Citizenship is defined as full and equal membership of a country. In the words of Hannah Arendt, citizenship is the 'right to have rights'.
- There are two important legal systems based on which citizenship is acquired in various countries.
  - One of them is 'jus soli' which means 'right of soil.' Under this principle, a child's citizenship is determined by his or her place of birth irrespective of the citizenship of their parents.
  - Eg: North American and Latin American countries like Canada, Mexico, Brazil, Argentina etc., follow this principle while granting citizenship for children born within their country.
  - The other is 'jus sanguinis' which means 'right of blood.' Under this principle, a child's citizenship is determined by the citizenship of parents.
  - Eg: Many African, European and Asian countries like Egypt, South Africa, Germany, India etc., follow this principle.



**Citizenship in India:**

- Citizenship in India is governed by the Citizenship Act, 1955. Till June 1987, India followed the 'jus soli' principle granting automatic citizenship to anyone born in India. **Hence statement 1 is incorrect.**
- Subsequently, the law was amended to introduce the 'jus sanguinis' principle.

Acquiring Indian citizenship can be done through several different pathways depending on your circumstances. Here are the main ways you can acquire citizenship in India:

**1. Citizenship by Birth:**

- If you were born in India after January 26, 1950, but before July 1, 1987, you are automatically an Indian citizen, regardless of the nationality of your parents. **Hence statement 2 is correct.**
- If you were born after July 1, 1987, you must have at least one Indian parent to be granted Indian citizenship.
- If you were born after December 3, 2004, you must have at least one parent who is an Indian citizen to be considered a citizen of India.

**2. Citizenship by Descent:**

- If you were born outside India, you can acquire Indian citizenship by descent if your father (or mother, if your father is not an Indian citizen) was an Indian citizen at the time of your birth.

**3. Citizenship by Registration:**

- This applies to people who are not Indian by birth or descent but have lived in India for a certain period and meet specific criteria. The categories include:
  - People of Indian origin who have lived in India for at least 7 years before applying. **Hence statement 3 is correct.**
  - Spouses of Indian citizens who have been married for at least 7 years.
  - Minor children of Indian citizens.
  - Stateless persons residing in India.

**4. Citizenship by Naturalization:**

- If you are not of Indian origin and have lived in India for at least 12 years, you can apply for Indian citizenship by naturalization. The 12 years can be reduced to 7 years if you are of Indian origin.
- You must be of good character, be proficient in one of the languages spoken in India, and not be involved in any criminal activity.

**5. Citizenship by Incorporation of Territory:**

- If any new territory becomes part of India, the people living in that territory may be granted Indian citizenship. This happens automatically through an act of Parliament.

**PYQ REFERENCE:**

**Q. With reference to India, consider the following statements:**

1. There is only one citizenship and one domicile.

2. A Citizen by birth only can become the Head of State.
3. A foreigner once granted the citizenship cannot be deprived of it under any circumstance.

**Which of the statements given above is/are correct?**

- a) 1 only
- b) 2 only
- c) 1 and 3
- d) 2 and 3

**Source:**

<https://www.thehindu.com/news/international/the-legal-systems-under-which-citizenship-is-acquired-explained/article69173713.ece#:~:text=Citizenship%20in%20India%20is%20governed,the%20%27jus%20sanguinis%27%20principle.>

## 2. Motion of Thanks

**Q. With reference to the 'Motion of Thanks' consider the following statements.**

1. The Motion of Thanks is a mechanism for parliamentary scrutiny of the government's policies and priorities.
2. It serves as a platform for opposition parties to express their dissent or disagreement with the government.
3. It also provides an opportunity to highlight issues of national importance that might not be included in the President's address.
4. If the motion is rejected, it could be interpreted as a form of no-confidence against the government.

**Which of the statements given above is / are correct?**

- (a) 1 and 2 only
- (b) 1 and 3 only
- (c) 2, 3 and 4 only
- (d) 1, 2, 3 and 4

**Answer: (d) 1, 2, 3 and 4**

**Explanation:**

**In NEWS:** Prime Minister Shri Narendra Modi's reply to the Motion of Thanks on the President's Address in Lok Sabha

**Motion of Thanks:**

- A Motion of Thanks is a formal expression of gratitude, typically addressed to the President of India, who delivers the Annual Address to the nation at the beginning of each year.

- The motion is usually moved in both Houses of Parliament – the Lok Sabha and the Rajya Sabha – in response to the President's speech.
- The President's address is usually delivered on the first day of the first session of each year, often during the Budget Session.
- The Motion of Thanks is moved in both the Houses to thank the President for their speech, while also debating the content of that speech.
- The motion gives the Members of Parliament (MPs) an opportunity to discuss the government's policies, the President's address, and the overall functioning of the government.

**Process:**

- Manner of introduction: After the President's address, the Leader of the House moves the motion in the Lok Sabha and the Rajya Sabha.
- Debate: A debate follows where members express their views on the contents of the address.
- Amendment to the Motion: MPs may move amendments to the motion to raise issues, criticize government policies, or highlight shortcomings.
- Voting: Once the debate concludes, the motion is put to a vote.
- If the motion is passed, it reflects the support of the Parliament for the President's address.
- If the motion is rejected (which is rare), it could be interpreted as a form of no-confidence against the government, but such a scenario is highly unusual. **Hence statement 4 is correct.**

**Significance:**

- The Motion of Thanks is a mechanism for parliamentary scrutiny of the government's policies and priorities. **Hence statement 1 is correct.**
- It serves as a platform for opposition parties to express their dissent or disagreement with the government. **Hence statement 2 is correct.**
- It also provides an opportunity to highlight issues of national importance that might not be included in the President's address. **Hence statement 3 is correct.**

**Historical Context:**

- In the history of the Indian Parliament, the Motion of Thanks has sometimes sparked major debates on pressing national issues.
- While the motion is intended to be a form of thanks, the debate often turns into a discussion of current policies, governance challenges, and even political accusations.
- Notably, during periods of political instability, the Motion of Thanks can serve as an indirect indicator of the government's strength or weakness in Parliament.

**PYQ REFERENCE:**

**Q. Consider the following statements regarding a No-Confidence Motion in India:**

1. There is no mention of a No-Confidence Motion in the Constitution of India.
2. A Motion of No-Confidence can be introduced in the Lok Sabha only.

**Which of the statements given above is / are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2099882>

### 3. Parole and Furlough

**Q. Consider the following statements:**

1. The release on parole decreases the duration of imprisonment whereas a release on a furlough does not reduce the duration of imprisonment.
2. Parole can be granted a number of times whereas there is limitation in the case of furlough.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Answer: (b) 2 only**

**Explanation:**

**In NEWS:** Convicts of the Hashimpura massacre have moved the Delhi High Court against a Delhi prison rule about furloughs.

**Furlough:**

Furlough means granting leave of absence for a specified period of time to a convict from prison. It is a conditional release and is granted as good conduct remission.

**Parole:**

parole is a conditional release of a prisoner, generally under the supervision of a parole officer, who has served part of the term for which he was sentenced to prison.

**Parole and Furlough:**

- Both furlough and parole stem from jail manuals and prison rule and are in the domain of the executive.
- Both are conditional releases, subject to good behavior in prison and to not committing specific offences.
- In furlough, the sentence continues to run despite the convict being released from prison for a specified period of time.

- For example, if a person has been sentenced to 10 years' imprisonment and is released on furlough for 30 days, in effect he will be in jail for 9 years 11 months and yet will be deemed to have completed the sentence.
- When the convict is released on parole, the sentence is suspended and the quantum of sentence remains intact. **Hence statement 1 is incorrect.**
- Paroles are granted in short-term imprisonment, to provide relief to prisoners in certain specified exigencies such as illness, sowing and harvesting of crops, and to pursue an appeal against conviction in the SC.
- Furlough is usually granted in case of long-term imprisonment and after spending a certain period of time incarcerated.
- It is aimed to prevent solitude of prisoners, allow them to establish family and social ties, a way of motivation for maintaining good conduct, and to remain disciplined in prison.
- Parole is granted by the Divisional Commissioner while furlough is granted by the Deputy Inspector General of Prisons.
- For parole, a specific reason is required, whereas furlough is meant for breaking the monotony of imprisonment.
- During parole, prisoners are monitored and may require police escort. In case of furlough, the prisoner must return voluntarily without an escort.
- Parole can be granted a number of times whereas there is limitation in the case of furlough. **Hence statement 2 is correct.**
- Since furlough is not granted for any particular reason, it can be denied in the interest of the society.

**PYQ REFERENCE:**

**Q. With reference to India, consider the following statements:**

1. When a prisoner makes out a sufficient case, parole cannot be denied to such prisoner because it becomes a matter of his/her right.
2. State Governments have their own Prisoners Release on Parole Rules.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Source:**

<https://indianexpress.com/article/explained/explained-law/power-to-grant-furloughs-d-elhi-hc-case-9819472/>

## **4. NATIONAL LOK ADALAT SCHEME**

**Q. Consider the following statements with respect to Lok Adalats:**

1. They are established under the Legal Services Authorities Act, 1987.
2. Under the said Act, the decision made by the Lok Adalats is deemed to be a decree of a civil court and is final and binding on all parties
3. Any case pending before any court can be referred to Lok Adalat.

**How many of the above statements are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Answer: (c) All three**

**Explanation:**

**In NEWS:** The Ministry of Law and Justice publishes details of the number of cases disposed of by the Lok Adalats during the last two years and current year.

**Lok Adalats:**

- Lok Adalats are organized by Legal Services Institutions at such intervals as it deems fit, in order to reduce the pendency of cases in courts and also to settle the disputes at pre-litigation stage.
- Lok Adalats are one of the effective modes of Alternative Dispute Resolution (ADR) mechanism in reducing the burden on the courts, which have received positive response from the public.
- They are established under the Legal Services Authorities Act, 1987. **Hence statement 1 is correct.**
- Under the said Act, the award (decision) made by the Lok Adalats is deemed to be a decree of a civil court and is final and binding on all parties and no appeal against such an award lies before any court of law. **Hence statement 2 is correct.**
- If the parties are not satisfied with the award of the Lok Adalat though there is no provision for an appeal against such an award, but they are free to initiate litigation by approaching the court of appropriate jurisdiction by filing a case by following the required procedure, in exercise of their right to litigate.
- There is no court fee payable when a matter is filed in a Lok Adalat.
- If a matter pending in the court of law is referred to the Lok Adalat and is settled subsequently, the court fee originally paid in the court on the complaints/petition is also refunded back to the parties.
- They are recognized as a statutory authority to settle disputes outside the formal judicial system.
- They function under the supervision of the National Legal Services Authority (NALSA) and State Legal Services Authorities (SLSA).

**Nature of Cases to be Referred to Lok Adalat:**

1. Any case pending before any court. **Hence statement 3 is correct.**

2. Any dispute which has not been brought before any court and is likely to be filed before the court.

Provided that any matter relating to an offence not compoundable under the law shall not be settled in Lok Adalat.

**Framework of Lok Adalat:**

- There are three types of Lok Adalats namely State Lok Adalats, National Lok Adalats and Permanent Lok Adalats.
- State Lok Adalats are organized by the Legal Services Authorities/Committees as per the local conditions and needs, for settlement of both pre-litigation and post-litigation cases.
- National Lok Adalats are conducted quarterly for settlement of cases (both pre-litigation and post-litigation) in all the courts from the Supreme Court of India to the Taluk Courts on a single day.
- Every year, National Legal Services Authority (NALSA) issues calendar for organising National Lok Adalats. During the year 2025, National Lok Adalats are scheduled to be held on 8th March, 10th May, 13th September and 13th December.
- Permanent Lok Adalats are permanent establishments set up in most of the Districts to provide compulsory pre-litigative mechanism for settlement of disputes related to Public Utility Services.

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2100326>

## **5. Governor's power over state bills**

**Q. According to the constitution of India, When a Bill has been passed by the Legislative Assembly of a State or, in the case of a State having a Legislative Council, has been passed by both Houses of the Legislature of the State, it shall be presented to the Governor and the Governor shall**

1. assents to the Bill
2. withholds assent to the Bill
3. reserves the Bill for the consideration of the President.
4. return the Bill for reconsideration irrespective of the nature of the bill.

**Select the answer using the code given below:**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1, 2 and 3
- (d) 1,3 and 4

**Answer: (c) 1, 2 and 3**

**Explanation:**



**In NEWS:** The Supreme Court on Thursday (February 6, 2025) asked what Tamil Nadu Governor R.N. Ravi found so “gross” about the 12 Bills the State government sent him for assent that they were kept pending for over three years.

Article 200. Assent to Bills :

- When a Bill has been passed by the Legislative Assembly of a State or, in the case of a State having a Legislative Council, has been passed by both Houses of the Legislature of the State, it shall be presented to the Governor and the Governor shall declare either that
  - he assents to the Bill or that
  - he withholds assent therefrom or that
  - he reserves the Bill for the consideration of the President. **Hence statements 1, 2 and 3 are correct.**
- Provided that the Governor may, as soon as possible after the presentation to him of the Bill for assent, return the Bill if it is **not a Money Bill (Hence statement 4 is not correct)** together with a message requesting that the House or Houses will reconsider the Bill or any specified provisions thereof and, in particular, will consider the desirability of introducing any such amendments as he may recommend in his message and,
  - when a Bill is so returned, the House or Houses shall reconsider the Bill accordingly, and
  - if the Bill is passed again by the House or Houses with or without amendment and presented to the Governor for assent, the Governor shall not withhold assent therefrom.
- Provided further that the Governor shall not assent to, but shall reserve for the consideration of the President, any Bill which in the opinion of the Governor would, if it became law, so derogate from the powers of the High Court as to endanger the position which that Court is by this Constitution designed to fill.

**PYQ REFERENCE:**

**Q. Which of the following statements are correct in respect of a Money Bill in the Parliament?**

1. Article 109 mentions special procedure in respect of Money Bills.
2. A Money Bill shall not be introduced in the Council of States.
3. The Rajya Sabha can either approve the Bill or suggest changes but cannot reject it.
4. Amendments to a Money Bill suggested by the Rajya Sabha have to be accepted by the Lok Sabha.

**Select the answer using the code given below:**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1, 2 and 3
- (d) 1, 3 and 4



Source:

<https://www.thehindu.com/news/national/tamil-nadu/what-was-so-gross-about-the-tn-bills-that-you-kept-them-pending-for-over-three-years-supreme-court-asks-tn-governor/article69189006.ece>

## **6. Appointment of ad-hoc judges to High Courts**

**Q. With reference to Indian judiciary, consider the following statements:**

1. The constitution of India allows the appointment of retired judges to High Courts on an ad-hoc basis.
2. The appointment of ad-hoc judges to High Courts requires the consent of both the retired judge and the President of India.
3. The ad-hoc judges receive allowances as determined by the President's order and exercise the same jurisdiction, powers, and privileges as a sitting High Court judge.

**Which of the statements given above are correct?**

- (a) 1, 2 and 3
- (b) 1 and 2 only
- (c) 2 and 3 only
- (d) 1 and 3 only

**Answer: (a) 1, 2 and 3**

**Explanation:**

**In NEWS:** To address the growing backlog of criminal cases, the Supreme Court allowed High Courts to appoint retired judges on an ad-hoc basis.

**Appointment of ad-hoc judges to High Courts:**

- Article 224-A, introduced by the Constitution (Fifteenth Amendment) Act, 1963, allows the appointment of retired judges to High Courts on an ad-hoc basis. **Hence statement 1 is correct.**
- Such appointments require the consent of both the retired judge and the President of India. **Hence statement 2 is correct.**
- These judges receive allowances as determined by the President's order and exercise the same jurisdiction, powers, and privileges as a sitting High Court judge. **Hence statement 3 is correct.**
- The detailed procedure for such appointments is outlined in the 1998 Memorandum of Procedure (MoP), formulated following the Supreme Court's ruling in Supreme Court Advocates-on-Record Association v. Union of India (1993), which established the collegium system for judicial appointments.

- As per the MoP, once a retired judge consents to the appointment, the Chief Justice of the High Court submits the judge's name and the proposed tenure to the State's Chief Minister.
- The Chief Minister then forwards the recommendation to the Governor, who relays it to the Union Minister of Law and Justice.
- The Union Law Minister consults the CJI for advice, after which the recommendation is sent to the Prime Minister.
- The Prime Minister then advises the President, and once the President approves, the appointment is finalised. Finally, the Chief Minister issues the formal notification in the Gazette of India.

**PYQ REFERENCE:**

**Q. With reference to Indian judiciary, consider the following statements:**

1. Any retired judge of the Supreme Court of India can be called back to sit and act as a Supreme Court judge by the Chief Justice of India with prior permission of the President of India.
2. A High Court in India has the power to review its own judgement as the Supreme Court does.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Source:**

<https://www.thehindu.com/news/national/why-did-the-supreme-court-clear-the-decks-for-appointment-of-ad-hoc-judges-to-high-courts/article69175087.ece#:~:text=the%20sanctioned%20strength,How%20are%20ad%2Dhoc%20judges%20appointed%3F,and%20the%20President%20of%20India.>

## **7. National Commission for Safai Karamcharis**

**Q. Consider the following statements.**

1. The National Commission for Safai Karamcharis is a statutory body enacted under the National Commission for Safai Karamcharis Act, 1993.
2. The National Commission for Safai Karamcharis is responsible for the protection, welfare, development, and advancement of Scheduled Castes in India.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Answer: (a) 1 only**

**Explanation:**

**In NEWS:** Cabinet approves extension of the tenure of National Commission for Safai Karamcharis for three years beyond 31.03.2025

**The National Commission for Safai Karamcharis:**

- The National Commission for Safai Karamcharis Act, 1993, was enacted in September, 1993 and a statutory National Commission for Safai Karamcharis was first constituted in August, 1994. **Hence statement 1 is correct.**
- IT would help in facilitating socio-economic upliftment of sanitation workers, improving the working conditions in the sanitation sector and aiming to achieve zero fatalities while performing hazardous cleaning. **Hence statement 2 is incorrect.**

**Functions of the Commission:**

Mandate of the NCSK is to:

- (a) recommend to the Central Government specific programmes of action towards elimination of inequalities in status, facilities and opportunities of Safai Karamcharis;
- (b) study and evaluate implementation of the programmes and schemes relating to the social and economic rehabilitation of Safai Karamcharis and scavengers in particular;
- (c) investigate specific grievances and take suo-motu notice of matter relating to non-implementation of
  - (i) programmes or schemes in respect of any group of Safai Karamcharis,
  - (ii) decisions, guidelines etc. aimed at mitigating the hardships of Safai Karamcharis;
  - (iii) measures for the social and economic upliftment of Safai Karamcharis etc,
- (d) study and monitor the working conditions, including those relating to health safety and wages of Safai Karamcharis,
- (e) make reports to the Central or State Government on any matter concerning Safai Karamcharis, taking into account any difficulties or disabilities being encountered by Safai Karamcharis; and
- (f) any other matter which may be referred to by the Central Government.

**PYQ REFERENCE:**

**Q. Consider the following organizations/bodies in India:**

1. The National Commission for Backward Classes
2. The National Human Rights Commission
3. The National Law Commission
4. The National Consumer Disputes Redressal Commission

**How many of the above constitutional bodies?**

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2100849>

### **8. The Prime Minister's 15 Point Programme for Minorities**

**Q. Consider the following statements.**

1. The Prime Minister's 15 Point Programme for Minorities is a programme for the underprivileged and weaker sections of six centrally notified minority communities.
2. The schemes of the Ministry of Minority Affairs covered under the Prime Minister's 15 Point Programme are exclusively meant for notified minorities.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (c) Both 1 and 2**

**Explanation:**

**In NEWS:** Information shared about the Prime Minister's New 15 Point Programme for the Welfare of Minorities in Rajya Sabha

**The Prime Minister's New 15 Point Programme:**

- The New 15 Point Programme for welfare of Minorities is a programme which covers various schemes/initiatives of the participating Ministries/Departments with an aim to ensure that the underprivileged and weaker sections of six centrally notified minority communities have equal opportunities for availing the various Government welfare Schemes and contribute to the overall socio-economic development of the Country. **Hence statement 1 is correct.**
- The schemes of the Ministry of Minority Affairs covered under the Prime Minister's 15 Point Programme are exclusively meant for notified minorities. **Hence statement 2 is correct.**
- However, 15% of the outlays and targets, to the extent possible, of schemes/initiatives implemented by other participating Ministries/Departments are earmarked for notified minorities.

**Objectives of the programme:**

- Enhancing opportunities for education
- Ensuring an equitable share for minorities in economic activities and employment, through existing and new schemes, enhanced credit support for self-employment, and recruitment to State and Central Government jobs

- Improving the conditions of living of minorities by ensuring an appropriate share for them in infrastructure development schemes
- Prevention and control of communal disharmony and violence.

**The welfare schemes being implemented by Ministry of Minority Affairs and other participating ministries under the programme, are as under:**

1. Pre-Matric Scholarship Scheme
2. Post-Matric Scholarship Scheme
3. Merit-cum- Means based Scholarship Scheme
4. National Minorities Development Finance Corporation (NMDFC) Loan Schemes
5. Samagra Shiksha Abhiyaan (M/o Education)
6. Deen Dayal Antyodaya Yojana (DAY-NRLM)- (M/o Rural Development)
7. Deen Dayal Upadhyay – Gramin Kaushalya Yojana (M/o Rural Development)
8. Pradhan Mantri Awaas Yojana (M/o Rural Development)
9. Deen Dayal Antyodaya Yojana - National Urban Livelihoods Mission (M/o Housing & Urban Affairs)
10. Priority Sector Lending by Banks (Department of Financial Services)
11. Pradhan Mantri Mudra Yojana (Department of Financial Services)
12. POSHAN Abhiyaan (Ministry of Women & Child Development)
13. National Health Mission (Department of Health & Family Welfare)
14. Ayushman Bharat (Department of Health & Family Welfare)
15. National Rural Drinking Water Programme (Jal Jeevan Mission), (Department of Drinking Water & Sanitation)

The Schemes are being implemented by the respective Ministries/Departments under the saturation approach of Government.

**PYQ REFERENCE:**

**Q. In India, if a religious sect/community is given the status of a national minority, what special advantages it is entitled to?**

1. It can establish and administer exclusive educational institutions.
2. The President of India automatically nominates a representative of the community to Lok Sabha.
3. It can derive benefits from the Prime Minister's 15-Point Programme.

**Which of the statements given above is/ are correct?**

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Source:**

<https://pib.gov.in/PressReleasePage.aspx?PRID=2101517#:~:text=The%20Prime%20Minister's%20New%2015,communities%20have%20equal%20opportunities%20for>

## 9. President's Rule

**Q. Which among the following statements are correct with respect to the imposition of President's rule in states?**

1. The imposition of President's Rule under Article 356 effectively transfers all the functions of the state government to the Centre including the functioning of High Courts.
2. Both the Lok Sabha and the Rajya Sabha must approve through a resolution before the period of president's rule expires to remain operative further.
3. The proclamation of President's Rule can be extended to six months and Parliament can approve further six-month extensions for up to three years.
4. The President's power to issue a proclamation under Article 356 is not subject to judicial review.

**Select the answer using the code given below:**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1, 2 and 3
- (d) 1,3 and 4

**Answer: (b) 2 and 3 only**

**Explanation:**

**In NEWS:** President's rule among options for Manipur.

**Article 356 of the Constitution:**

- The imposition of President's Rule under Article 356 effectively transfers all the functions of the state government to the Centre and the function of the state legislature to Parliament during the period when it is in force. The only exception to this is the functioning of High Courts, which remains unchanged. **Hence statement 1 is incorrect.**
- The process begins if the President, on receiving a report from the Governor, is "satisfied that a situation has arisen in which the Government of the State cannot be carried on in accordance with the provisions of this Constitution".
- In this situation, the President will issue a 'Proclamation', which can remain in force for up to two months.
- The Lok Sabha and the Rajya Sabha must approve it through a resolution before this period expires for it to remain operative further. **Hence statement 2 is correct.**
- If approved, the proclamation of President's Rule can be extended to six months and Parliament can approve further six-month extensions for up to three years. **Hence statement 3 is correct.**

- Since 1950, when the Constitution first came into force, President's Rule has been imposed a total of 134 times across 29 states and UTs. It has been imposed most frequently in Manipur and Uttar Pradesh, at 10 times each.
- A nine-judge Bench in the case of **S R Bommai v Union of India (1994)** unanimously held that the President's power to issue a proclamation under Article 356 was **subject to judicial review** and courts could examine the decision to see if it suffered from illegality, malafide, extraneous considerations, abuse of power, or fraud. **Hence statement 4 is incorrect.**

**PYQ REFERENCE:**

**Q. Which of the following are not necessarily the consequences of the proclamation of the President's rule in a State?**

1. Dissolution of the State Legislative Assembly
2. Removal of the Council of Ministers in the State
3. Dissolution of the local bodies

**Select the correct answer using the code below:**

- (a) 1 and 2 only  
(b) 1 and 3 only  
(c) 2 and 3 only  
(d) 1, 2 and 3

**Source:**

<https://indianexpress.com/article/explained/explained-law/presidents-rule-manipur-wh-at-is-the-provision-history-9830266/>

## 10. Devolution of States

**Q. With reference to the Indian polity, consider the following statements.**

1. The constitution of India empowers states to devolve functions to Panchayats.
2. Kerala tops the overall Devolution Index (DI) 2024 ranking of the Panchayat Raj system among States in India.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Answer: (a) 1 only**

**Explanation:**

**In NEWS:** Karnataka tops in Devolution Index 2024 ranking of Panchayat Raj system



**Devolution Index:**

- The report titled 'Status of Devolution to Panchayats in States – An Indicative Evidence-Based Ranking' (2024) released by the Centre.
- Karnataka tops the overall Devolution Index (DI) ranking of the Panchayat Raj system among States in India, while Kerala and Tamil Nadu are in the second and third spot, respectively. **Hence statement 2 is incorrect.**
- States/UTs were ranked according to the overall panchayat DI and six key dimensions of framework, functions, finances, functionaries, capacity enhancement, and accountability.

**Devolution of States to Panchayats:**

- Devolution refers to the transfer of powers, responsibilities, and resources from the State Government to Panchayati Raj Institutions (PRIs) to enable grassroots governance.
- While the 73rd Constitutional Amendment Act, 1992 mandates this transfer, the actual devolution varies across states.
- Devolution to Panchayats is based on the three Fs:
  - Functions – What responsibilities are given?
  - Funds – How much financial autonomy do Panchayats have?
  - Functionaries – Do Panchayats have enough staff to perform their duties?
- Devolution of Functions:
  - Article 243G empowers states to devolve functions to Panchayats as per the Eleventh Schedule. **Hence statement 1 is correct.**
  - It lists 29 subjects, including:
    - Agriculture & irrigation
    - Rural development
    - Education & health
    - Drinking water & sanitation
    - Social welfare & poverty alleviation
- Devolution of Funds:
  - Panchayats depend on three sources of funds:
  - Grants from the Union Government (Finance Commission)
  - State government allocations
  - Own revenue (taxes, fees, etc.)
- Devolution of Functionaries:
  - Panchayats need trained personnel to implement schemes effectively.
  - In many states, officials are still controlled by the State Government, limiting Panchayat autonomy.

**PYQ REFERENCE:**

**Q. The fundamental object of Panchayati Raj system is to ensure which among the following?**

1. People's participation in development



2. Political accountability
3. Democratic decentralisation
4. Financial mobilisation

**Select the correct answer using the code given below:**

- (a) 1, 2 and 3 only
- (b) 2 and 4 only
- (c) 1 and 3 only
- (d) 1, 2, 3 and 4

**Source:**

<https://www.thehindu.com/news/national/karnataka/karnataka-tops-in-devolution-index-ranking-of-panchayat-raj-system/article69222864.ece>

## **11. National Awards for e-Governance 2025**

**Q. Consider the following statements.**

1. The National Awards for e-Governance 2025 aims to recognize and promote excellence in implementation of e-Governance initiatives.
2. The Ministry of Personnel, Public Grievances & Pensions is the nodal agency for the National e-Governance Awards Scheme.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (c) Both 1 and 2**

**Explanation:**

**In NEWS:** The registration and submission of nominations under the National Awards for e-Governance 2025 was commenced on January 07, 2025.

**National e-Governance Awards Scheme:**

- It is recognized amongst the most competitive and prestigious digital governance awards schemes in the country.
- The objective of the Scheme is to recognize and promote excellence in implementation of e-Governance initiatives. **Hence statement 1 is correct.**
- The NAeG Awards, 2025 will consist of Trophy, Certificate and an incentive of Rs 10 lakh for Gold Awardees and Rs 5 Lakhs for Silver Awardees to be awarded to the District/organization for being utilized for implementation of project/programme or bridging resources gaps in any area of public welfare.

- For the year 2025, there are six categories under which the National Awards for e-Governance 2026 will be conferred. These categories are
  - Government Process Re-engineering by use of technology for Digital Transformation
  - Innovation by Use of AI and other new age technologies for providing Citizen-Centric Services,
  - Best e-Gov. Practices/Innovation in Cyber Security
  - Grassroot Level Initiatives for Deepening/ Widening of Service Delivery with focus on initiatives by Districts/ULBs/Gram Panchayats
  - Replication and Scaling up of Successful National Awarded Projects like NAeG, Prime Minister Awards in Excellence, Awards conferred by other Central Ministries by State/UT/ District The NAeG 2024
  - Digital transformation by use of data analytics in digital platforms by Central Ministries/States/UTs
- Nodal Ministry: Ministry of Personnel, Public Grievances & Pensions. **Hence statement 2 is correct.**

Source:

[https://pib.gov.in/PressReleaseframePage.aspx?PRID=2103515#:~:text=The%20registration%20and%20submission%20of,commenced%20on%20January%2007%2C%202025.&text=Category%20\(I\)%20%2D%20Government%20Process,4%20awards%20would%20be%20conferred.](https://pib.gov.in/PressReleaseframePage.aspx?PRID=2103515#:~:text=The%20registration%20and%20submission%20of,commenced%20on%20January%2007%2C%202025.&text=Category%20(I)%20%2D%20Government%20Process,4%20awards%20would%20be%20conferred.)

## **SCHEMES**

### **1. Dhan-Dhaanya Krishi Yojan**

**Q. Consider the following statements: 'Prime Minister Dhan-Dhaanya Krishi Yojana' aims to**

1. adopt crop diversification and sustainable agriculture practices
2. provide financial assistance, technical support, and market linkages to farmers involved in animal husbandry, poultry farming, and aquaculture.
3. augment post-harvest storage at the panchayat and block level
4. improve irrigation facilities and facilitate availability of long-term and short-term credit.

**Which of the above statements is/are correct?**

- (a) 1, 3 and 4
- (b) 2 and 3 only
- (c) 2 only
- (d) 1, 2 and 4

**Answer: (a) 1, 3 and 4**

**Explanation:**

**In NEWS:** The Union Finance Minister stated that motivated by the success of the Aspirational Districts Programme, the Government will undertake a 'Prime Minister Dhan-Dhaanya Krishi Yojana' in partnership with states.

**Prime Minister Dhan-Dhaanya Krishi Yojana-Developing Agri Districts Programme:**

- The programme aims to enhance agricultural productivity; adopt crop diversification and sustainable agriculture practices; augment post-harvest storage at the panchayat and block level; improve irrigation facilities and facilitate availability of long-term and short-term credit. **Hence statements 1, 3 and 4 are correct.**
- This programme is likely to help 1.7 crore farmers.
- Through the convergence of existing schemes and specialized measures, the programme will cover 100 districts with low productivity, moderate crop intensity and below-average credit parameters.



The infographic features the logos of PIB and the Ministry of Finance at the top left. A large yellow '₹' symbol is on the right, with 'UNION BUDGET 2025-26' written below it. The main title 'Prime Minister Dhan-Dhaanya Krishi Yojana' is in green, with 'Developing Agri Districts Programme' in a green box below it. A subtitle states: 'Scheme to cover 100 districts with low productivity, moderate crop intensity and below-average credit parameters'. On the right, there are three diamond-shaped images: a farmer in a red shirt, a field of yellow flowers, and a field of golden wheat. At the bottom, a list of five objectives is shown, each with a green dot and a progress bar:

- To enhance agricultural productivity
- To adopt crop diversification and sustainable agriculture practices
- To augment post-harvest storage at Panchayat and Block levels
- Improve irrigation facilities
- Improve credit availability

**PYQ REFERENCE:**

**Q. Consider the following statements: The nation-wide 'Soil Health Card Scheme' aims at**

1. expanding the cultivable area under irrigation.
2. enabling the banks to assess the quantum of loans to be granted to farmers on the basis of soil quality.
3. checking the overuse of fertilizers in farmlands.

**Which of the above statements is/are correct?**

- (a) 1 and 2 only
- (b) 3 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Source:**

<https://indianexpress.com/article/india/budget-agriculture-pulses-seeds-vegetables-mission-9811866/>

<https://pib.gov.in/PressReleasePage.aspx?PRID=2098401>

## **2. Mission for Aatmanirbharta in Pulses**

**Q. Consider the following statements:**

**Statement-I:**

The Mission for Aatmanirbharta in Pulses was announced in the 2025-26 Union Budget.

**Statement II:**

India is a net exporter of pulses.

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct, and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Answer: (d) Statement-I is correct but Statement-II is incorrect**

**Explanation:**

**In NEWS:** The Mission for Aatmanirbharta in Pulses was announced in the 2025-26 Union Budget.

**The Mission for Aatmanirbharta in Pulses:**

- The Mission for Aatmanirbharta in Pulses is a strategic initiative launched by the Indian government to achieve self-sufficiency in pulse production.

- Announced in the 2025-26 Union Budget, the mission focuses on three key pulses: tur (pigeon pea), urad (black gram), and masoor (red lentil). **Hence statement 1 is correct.**
- The Mission will place emphasis on development and commercial availability of climate resilient seeds; enhancing protein content; increasing productivity; improving post-harvest storage and management and assuring remunerative prices to the farmers.
- Central agencies (NAFED and NCCF) will be ready to procure these 3 pulses, as much as offered during the next 4 years from farmers who register with these agencies and enter into agreements.

#### Need for the mission:

- In 2023-24, India experienced an 84% increase in pulse imports, reaching 4.65 million tonnes—the highest in six years. **Hence statement 2 is incorrect.**
- This surge was primarily due to domestic production shortfalls and rising demand for protein-rich diets.
- Adverse weather conditions, including droughts, have led to fluctuations in domestic pulse production, underscoring the need for sustainable agricultural practices.

#ViksitBharatBudget2025

## MISSION FOR AATMANIRBHARATA IN PULSES

■ 6-year 'Mission for Aatmanirbharata' in Pulses to be launched with special focus on **Tur, Urad and Masoor**

■ **Central Agencies (NAFED and NCCF)** will be ready to procure these 3 pulses as much as offered during next 4 years from farmers who register with these agencies

■ Emphasis of the Mission will be on development and commercial availability of **climate resilient seeds**; enhancing **protein content**; increasing **productivity**, improving post-harvest storage & management; and assuring **remunerative prices to farmers**



PYQ REFERENCE:

**Q. Among the agricultural commodities imported by India, which one of the following accounts for the highest imports in terms of value in the last five years?**

- (a) Spices
- (b) Fresh fruits
- (c) Pulses
- (d) Vegetable oils

**Source:**

<https://indianexpress.com/article/explained/explained-economics/budget-announcement-why-aatmanirbharta-in-pulses-is-a-challenge-9813887/>

### **3. The Pradhan Mantri Anusuchit Jaati Abhyuday Yojana (PM-AJAY)**

**Q. With reference to the Pradhan Mantri Anusuchit Jaati Abhyuday Yojana (PM-AJAY), Consider the following statements.**

1. It is an initiative aimed at uplifting Scheduled Caste (SC) communities across India.
2. It is a comprehensive scheme amalgamating three Centrally Sponsored Schemes, including Pradhan Mantri Adarsh Gram Yojana (PMAGY), Special Central Assistance to Scheduled Castes Sub Plan (SCA to SCSP), and Babu Jagjivan Ram Chhatrawas Yojana (BJRCY).

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (c) Both 1 and 2**

**Explanation:**

**In NEWS:**

**The Pradhan Mantri Anusuchit Jaati Abhyuday Yojana (PM-AJAY):**

- The Pradhan Mantri Anusuchit Jaati Abhyuday Yojana (PM-AJAY) is an initiative aimed at uplifting Scheduled Caste (SC) communities across India. **Hence statement 1 is correct.**
- It is a comprehensive scheme amalgamating three Centrally Sponsored Schemes, including Pradhan Mantri Adarsh Gram Yojana (PMAGY), Special Central Assistance to Scheduled Castes Sub Plan (SCA to SCSP), and Babu Jagjivan Ram Chhatrawas Yojana (BJRCY). **Hence statement 2 is correct.**
- Launched to combat poverty and enhance socio-economic conditions, the scheme focuses on generating employment and improving education.



- Recently, the central advisory committee convened to review its progress and strategise future actions.

**Objectives of PM-AJAY**

- The primary objective is to reduce poverty among SC communities.
- This is achieved through skill development and income-generating initiatives.
- The scheme also aims to increase literacy rates and encourage SC enrolment in educational institutions, particularly in aspirational districts.

**Core Components - PM-AJAY comprises three main components:****Adarsh Gram Development:**

- This initiative transforms SC-majority villages into model villages by ensuring integrated development. It focuses on essential infrastructure and socio-economic indicators across ten domains, including education, health, and financial inclusion.

**Grants-in-Aid:**

- This component supports district and state-level projects aimed at socio-economic development. It includes comprehensive livelihood projects that create sustainable income opportunities for SC communities.

**Hostel Construction:**

- The scheme promotes the establishment of hostels to facilitate quality education for SC students. It aims to reduce dropout rates and improve access to higher education

**PYQ REFERENCE:**

**Q. With reference to the 'Pradhan Mantri 'Surakshit Matritva Abhiyan', consider the following statements:**

- This scheme guarantees a minimum package of antenatal care services to women in their second and third trimesters of pregnancy and six months postdelivery health care service in any government health facility
- Under this scheme, private sector health care providers of certain specialities can volunteer to provide services at nearby government health facilities.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

Source: <https://www.gktoday.in/pm-ajay-scheme/>

## **4. Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 4.0**

**Q. With reference to the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 4.0, Consider the following statements.**

1. It is a centrally sponsored scheme implemented by the Ministry of Skill Development and Entrepreneurship (MSDE).
2. It offers short-term training (STT) and reskilling and upskilling through Recognition of Prior Learning (RPL).
3. It includes new age courses for industry 4.0 like coding, AI, robotics, mechatronics, IoT, 3D printing, and drones.

**Which of the statements given above is/are correct?**

- (a) 1 and 3 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Answer: (c) 2 and 3 only**

**Explanation:**

**In NEWS:** The Finance Minister announced that Pradhan Mantri Kaushal Vikas Yojana 4.0 will be launched to skill lakhs of youth within the next three years.

**Pradhan Mantri Kaushal Vikas Yojana (PMKVY) 4.0:**

- It is a scheme that provides skill training to young people in India. The scheme is implemented by the Ministry of Skill Development and Entrepreneurship (MSDE).
- PMKVY 4.0 has been implemented as a **Central Sector Scheme** since 2022-23. **Hence statement 1 is incorrect.**
- There is no state managed component in PMKVY 4.0.
- It offers short-term training (STT) and reskilling and upskilling through Recognition of Prior Learning (RPL). **Hence statement 2 is correct.**
- It aims to provide skill development training that is aligned with the National Skill Qualification Framework (NSQF).
- It targets people between the ages of 15 and 59.
- It includes new age courses for industry 4.0 like coding, AI, robotics, mechatronics, IoT, 3D printing, and drones. **Hence statement 3 is correct.**
- It also includes soft skills to prepare young people for international opportunities.

**PM National Apprenticeship Promotion Scheme (PM-NAPS):**

- The National Policy on Skill Development and Entrepreneurship, 2015 focuses on apprenticeship as one of the key components for creating skilled manpower in India.
- Apprenticeship training can play a major role for on-the-job vocational training where youth can acquire skills by working at the actual workplace and earn some stipend, at the same time, to financially support himself.
- Apprenticeship is considered, globally as well, as the best model for skill acquisition and earning while learning.

**Jan Shikshan Sansthan (JSS) scheme:**

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- The Jan Shikshan Sansthan (JSS) scheme is a community-centric skilling initiative designed to make vocational training accessible, flexible, and inclusive, particularly for women, rural youth, and economically disadvantaged groups and caters to the age group of 15 -45 years of age.
- By delivering low-cost, doorstep training with flexible schedules, JSS ensures that skilling opportunities reach those who need them the most, fostering both self-employment and wage-based livelihoods.

**PYQ REFERENCE:**

**Q. With reference to Pradhan Mantri Kaushal Vikas Yojana, consider the following statements:**

1. It is the flagship scheme of the Ministry of Labor and Employment.
2. It, among other things, will also impart training in soft skills, entrepreneurship, financial and digital literacy.
3. It aims to align the competencies of the unregulated workforce of the country to the National Skill Qualification Framework.

**Which of the statements given above is/are correct?**

- (a) 1 and 3 only
- (b) 2 only
- (c) 2 and 3 only
- (d) 1, 2 and 3

**Source:** <https://pib.gov.in/PressReleasePage.aspx?PRID=1895304>  
<https://pib.gov.in/PressReleaselframePage.aspx?PRID=2100845#:~:text=The%20Union%20Cabinet%2C%20chaired%20by,%2D23%20to%202025%2D26.>

## **5. Atal Bhujal Yojana**

**Q. Regarding 'Atal Bhujal Yojana', which of the following statements is/are correct?**

1. Atal Bhujal Yojana (Atal Jal) is a central sector scheme launched by the Government of India to improve groundwater management in water-stressed areas through community participation.
2. It is 50% funded by the Government of India and 50% funded by the World Bank as loan assistance.
3. The scheme targets only seven water-stressed states including Andhra Pradesh, Bihar, Punjab, Tamil Nadu, and Telangana.

**Select the correct answer using the code given below.**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Answer: (a) 1 and 2 only**

**Explanation:**

**In NEWS:** The scheme initially targeted seven water-stressed states and is now set to expand to twelve states.

**Atal Bhujal Yojana:**

- Atal Bhujal Yojana (Atal Jal) is a central sector scheme launched by the Government of India on December 25, 2019, to improve groundwater management in water-stressed areas through community participation. **Hence statement 1 is correct.**
- The scheme initially targeted seven water-stressed states and is now set to expand to twelve states, including Andhra Pradesh, Bihar, Punjab, Tamil Nadu, and Telangana. **Hence statement 3 is incorrect.**
- It is 50% funded by the Government of India and 50% funded by the World Bank (Loan Assistance). **Hence statement 2 is correct.**

**Objectives of Atal Bhujal Yojana:**

- Sustainable Groundwater Management – Promote efficient use of groundwater resources.
- Community Participation – Involve local communities and panchayats in water conservation.
- Behavioral Change – Encourage farmers to adopt water-efficient irrigation techniques.
- Data-Driven Decision Making – Use groundwater mapping and monitoring for better planning.
- Demand-Side Management – Reduce excessive groundwater extraction through incentives.

**Features of the Scheme:**

- Water Budgeting – Villages prepare their own water conservation plans.
- Groundwater Monitoring – Use of GIS, sensors, and remote sensing.
- Promotes Rainwater Harvesting – Revival of ponds, check dams, and borewell recharge pits.
- Watershed Management – Protects catchment areas and promotes afforestation.
- Encourages Efficient Irrigation – Adoption of drip & sprinkler irrigation systems.

**Recent Developments & Impact:**

- Atal Jal Dashboard Launched – Digital platform for groundwater monitoring.
- More Villages Added – Expanding the scheme to more water-stressed areas.
- Success in Rajasthan & Maharashtra – Reports show rise in groundwater levels in certain regions.

**PYQ REFERENCE:**

**Q. Regarding 'Atal Pension Yojana', which of the following statements is/are correct?**

1. It is a minimum guaranteed pension scheme mainly targeted at unorganized sector workers.
2. Only one member of a family can join the scheme.
3. Same amount of pension is guaranteed for the spouse for life after the subscriber's death.

**Select the correct answer using the code given below.**

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Source:**

<https://www.deccanherald.com/india/centre-plans-to-extend-atal-bhujal-yojana-to-5-more-states-including-bihar-and-punjab-3398661>

## **6. PM Surya Ghar: Muft Bijli Yojana (PMSGMBY)**

**Q. Consider the following statements with respect to PM Surya Ghar: Muft Bijli Yojana:**

1. It aims to provide free electricity to households by facilitating the installation of rooftop solar panels.
2. Under the scheme, 100% subsidy is provided for solar systems up to 2 kW capacity.
3. The possession of a valid electricity connection is one of the eligibility criterias under the scheme.
4. As of January 2025, the scheme fulfilled its vision to supply solar power to one crore households.

**How many of the above statements are correct?**

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

**Answer: (b) Only two**

**Explanation:**

**In NEWS:** PM Surya Ghar: Muft Bijli Yojana Turns One

**PM Surya Ghar: Muft Bijli Yojana:**

- This initiative aims to provide free electricity to households by facilitating the installation of rooftop solar panels. **Hence statement 1 is correct.**
- The PMSGMBY, the world's largest domestic rooftop solar initiative, is reshaping India's energy landscape with a bold vision to supply solar power to one crore households by March 2027.
- As of January 27, 2025, the scheme has already benefitted 8.46 lakh households through rooftop solar installations. **Hence statement 4 is incorrect.**
- Under the "Model Solar Village" component of the scheme, the focus is on establishing one Model Solar Village per district throughout India.
- This initiative aims to promote solar energy adoption and empower village communities to achieve energy self-reliance.

**Eligibility:**

**The household must be an Indian citizen.**

**The household must own a house with a roof that is suitable for installing solar panels.**

**The household must have a valid electricity connection.**

**The household must not have availed any other subsidy for solar panels.**

- **Hence statement 3 is correct.**

**Subsidy Details:**

- 60% subsidy for solar systems up to 2 kW capacity. **Hence statement 2 is incorrect.**
- 40% subsidy for additional capacity between 2 kW and 3 kW.
- Maximum subsidy limit is for 3 kW systems.

**Applying process:**

- Households can apply for the subsidy through the National Portal, where they can also select a suitable vendor for installing rooftop solar.
- The National Portal will assist in decision-making by providing information on appropriate system sizes, a benefits calculator, vendor ratings, and other relevant details.
- With all credentials are entered correctly on the National Portal, the average time taken in processing the CFA is around 15 days after redemption request made by the consumer.

**Key Benefits:**

- **Free Electricity for Households:** The scheme provides households with free electricity through the installation of subsidized rooftop solar panels, significantly reducing their energy costs.
- **Reduced Electricity Costs for the Government:** By promoting the widespread use of solar power, the scheme is expected to save the government an estimated ₹75,000 crore annually in electricity costs.
- **Increased Use of Renewable Energy:** The scheme encourages the adoption of renewable energy sources, contributing to a more sustainable and environmentally friendly energy mix in India.
- **Reduced Carbon Emissions:** The transition to solar energy under this scheme will help lower carbon emissions, supporting India's commitment to reducing its carbon footprint.

**PYQ REFERENCE:**

**Q. Which one of the following is a purpose of 'UDAY', a scheme of the Government?**

- (a) Providing technical and financial assistance to startup entrepreneurs in the field of renewable sources of energy
- (b) Providing electricity to every household in the countries by 2018
- (c) Replacing the coal-based power plants with natural gas, nuclear, solar, wind and tidal power plants over a period of time
- (d) Providing for financial turnaround and revival of power distribution companies

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2102149>

## **7. Key initiatives fostering women's workforce participation.**

**Q. Achieving the ambitious 'Viksit Bharat' target of 70% women's participation in economic activities by 2047 necessitates increased investment in skilling, employment, entrepreneurship, access to productive resources, and social security entitlements. Which among the following initiatives provides skill development and entrepreneurship for women empowerment?**

1. Deendayal Antyodaya Yojana-National Rural Livelihoods Mission
2. The Mahatma Gandhi National Rural Employment Guarantee Scheme
3. PM Vishwakarma and Krishonnati Yojana
4. PM Dhan-Dhaanya Krishi Yojana

**Select the correct answer using the code given below:**

- (a) 1, 2 and 3 only
- (b) 2 and 3 only
- (c) 1 and 4 only
- (d) 1, 2, 3 and 4

**Answer: (d) 1, 2, 3 and 4**

**Explanation:**

**In NEWS:** Budgeting for gender-inclusive 'Viksit Bharat'

- As in the Periodic Labour Force Survey, India's female labour force participation rate (FLFPR) measured at usual status has steadily risen, reaching approximately 42% in 2023-24 from 33% in 2021-22.
- This is approaching the global average of 47%, as reported by the International Labour Organisation. However, a 37-percentage point gap remains when compared to men's labour force participation of 79%.
- Achieving the ambitious target of 70% women's participation in economic activities by 2047 necessitates increased investment in skilling, employment, entrepreneurship, access to productive resources, and social security entitlements — areas that the Budget has acknowledged through its various schemes.
- Key initiatives such as the **Skill India Programme, Entrepreneurship and Skill Development Programme (ESDP), National Skill Training Institutes, Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM), the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), PM Employment Generation Programme, PM Vishwakarma, and Krishonnati Yojana** have seen a combined increased allocation from ₹1.19 lakh crore to ₹1.24 lakh crore this year.
- Approximately 52% of these funds are directed toward women and girls. Additionally, new schemes such as the **Prime Minister Dhan-Dhaanya Krishi Yojana**, first-time entrepreneurs' scheme, sustainable livelihood for urban workers initiative, and Centres of Excellence for Make in India, will play a critical role in fostering women's workforce participation.

**Hence all the statements are correct.**

**PYQ REFERENCE:**

**Q. With reference to Pradhan Mantri Kaushal Vikas Yojana, consider the following statements:**

1. It is the flagship scheme of the Ministry of Labor and Employment.
2. It, among other things, will also impart training in soft skills, entrepreneurship, financial and digital literacy.
3. It aims to align the competencies of the unregulated workforce of the country to the National Skill Qualification Framework.

**Which of the statements given above is/are correct?**

- (a) 1 and 3 only  
(b) 2 only  
(c) 2 and 3 only  
(d) 1, 2 and 3

**Source:**

<https://www.thehindu.com/opinion/op-ed/budgeting-for-gender-inclusive-viksit-bharat/article69211937.ece#:~:text=Gender%20budget%20allocation,49%20Union%20Ministries%20and%20departments.>

## **8. Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA) Scheme**

**Q. Consider the following:**

1. Price Support Scheme
2. Price Deficiency Payment Scheme
3. Private Procurement & Stockist Scheme

**How many of the above are the components of the Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA) Scheme?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Answer: (c) All three**

**Explanation:**

**In NEWS:** Government approves Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA) Scheme till 2025-26 during the 15th Finance Commission cycle

**Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA) Scheme:**

- The Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA) was launched in 2018 by the Government of India to ensure fair prices and income security for farmers by strengthening the Minimum Support Price (MSP) mechanism.
- It is being Implemented by NAFED, FCI, and other state agencies.
- It Targets small & marginal farmers to prevent distress sales.

**Objectives of PM-AASHA:**

- Ensure remunerative prices for farmers' produce.
- Strengthen the MSP-based procurement system.
- Reduce distress sales by farmers.
- Promote private sector participation in procurement.

**Components of PM-AASHA:**

- Price Support Scheme (PSS):



- Procurement by government agencies like NAFED & FCI.
- Applies to pulses, oilseeds, and coarse grains.
- Farmers receive direct payments for crops procured under MSP.
- Price Deficiency Payment Scheme (PDPS):
  - Applies to oilseeds (like mustard, soybean, groundnut).
  - Farmers get the difference between MSP and actual market price if they sell at a lower price.
  - No physical procurement—only price support.
- Pilot of Private Procurement & Stockist Scheme (PPSS):
  - Encourages private traders to procure crops at MSP.
  - Applies only to oilseeds in selected states.
  - Government provides financial incentives to private players.

**Hence option (c) is correct.**

**Outcomes of PM-AASHA:**

- Increased procurement of pulses & oilseeds, reducing dependency on imports.
- More financial security for farmers, especially in states with weak MSP procurement.
- Need for expansion to include more crops & better logistics support.

**Challenges of PM-AASHA:**

- Focuses mainly on pulses & oilseeds; major crops like wheat & rice already have strong MSP procurement.
- Lack of storage & procurement centers in rural areas.
- Many farmers are unaware of PDPS & PPSS benefits.
- Low participation by the private sector in PPSS due to price risks.

**PYQ REFERENCE:**

**Q. Consider the following statements:**

1. In the case of all cereals, pulses and oil-seeds, the procurement at Minimum Support Price (MSP) is unlimited in any State/UT of India.
2. In the case of cereals and pulses, the MSP is fixed in any State/UT at a level to which the market price will never rise.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Source:** <https://pib.gov.in/PressReleasePage.aspx?PRID=2104121>



## **SCIENCE & TECHNOLOGY**

### **1. Leprosy**

**Q. In the context of Leprosy, consider the following statements:**

1. The Union Health Ministry through the National Strategic Plan (NSP) and Roadmap for Leprosy targeted to achieve zero transmission of leprosy by 2027.
2. Bihar, Chhattisgarh, Jharkhand, Maharashtra, and Odisha have highest prevalence of leprosy in India.
3. Nikusth 2.0 is a web-based information portal used for reporting leprosy cases.

**Select the correct answer using the code given below :**

- (a) 1 only
- (b) 1 and 2 only
- (c) 3 only
- (d) 1, 2 and 3

**Answer: (d) 1, 2 and 3**

**Explanation:**

**In NEWS:** India to employ targeted containment to stop transmission of leprosy

- The Union Health Ministry is looking at a more targeted approach to containing leprosy in India after having achieved the status of elimination of leprosy as a public health problem as per the World Health Organization's (WHO) criteria of less than 1 case per 10,000 population at the national level in 2005.
- To contain the chronic infections caused by *Mycobacterium leprae*, the Central government approved of a new treatment regimen for leprosy, aiming to stop its transmission at the subnational level by 2027.
- It introduced a three-drug regimen for Pauci-Bacillary (PB) cases in place of a two-drug regimen for six months.
- The five states in India with the highest prevalence of leprosy are **Bihar, Chhattisgarh, Jharkhand, Maharashtra, and Odisha. Hence statement 2 is correct.**
- The Union Health Ministry launched the **National Strategic Plan (NSP) and Roadmap for Leprosy (2023-27)** on January 30 2023, to achieve zero transmission of leprosy by 2027, i.e., three years ahead of the Sustainable Development Goal (SDG). **Hence statement 1 is correct.**
- The strategy and roadmap focuses on awareness for zero stigma and discrimination, promotion of early case detection, prevention of disease transmission by prophylaxis (leprosy post exposure prophylaxis), and the roll-out of a web-based information portal (**Nikusth 2.0**) for reporting of leprosy cases. **Hence statement 3 is correct.**

**Leprosy:**

- Leprosy, also known as Hansen's disease, is a chronic bacterial infection that affects the skin, nerves, eyes, and nose. It's caused by the bacteria *Mycobacterium leprae*.

**Symptoms**

- Skin lesions that are lighter, darker, or redder than normal skin
- Lesions that have decreased sensation to touch, heat, or pain
- Lesions that do not heal after several weeks to months
- Muscle weakness
- Numbness or lack of feeling in the hands, arms, feet, and legs
- Painless wounds or burns on the hands and feet

**PYQ REFERENCE:****Q. In the context of hereditary diseases, consider the following statements:**

1. Passing on mitochondrial diseases from parent to child can be prevented by mitochondrial replacement therapy either before or after in vitro fertilization of the egg.
2. A child inherits mitochondrial diseases entirely from the mother and not from the father.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Source:**

<https://www.thehindu.com/sci-tech/health/govt-to-employ-targeted-containment-to-stop-transmission-of-leprosy/article69158608.ece#:~:text=To%20contain%20the%20chronic%20infections,drug%20regimen%20for%20six%20months.>

## **2. Doomsday Clock**

**Q. Which of the following best describes the purpose of the Doomsday Clock?**

- (a) It serves as a forecast for global economic trends.
- (b) It is a warning about potential natural disasters.
- (c) It is a symbolic representation of the threat of global catastrophe due to human activities.
- (d) It tracks the global population growth and resource usage.

**Answer: (c) It is a symbolic representation of the threat of global catastrophe due to human activities.**

**Explanation:**

**In NEWS:** The Third Edit: Doomsday Clock has never been closer to calamity

- The Doomsday Clock is a symbol that represents the estimated likelihood of a human-made global catastrophe, in the opinion of the members of the Bulletin of the Atomic Scientists.
- Maintained since 1947, the Clock is a metaphor, not a prediction, for threats to humanity from unchecked scientific and technological advances. That is, the time on the Clock is not to be interpreted as actual time. **Hence option (c) is correct.**
- A hypothetical global catastrophe is represented by midnight on the Clock, with the Bulletin's opinion on how close the world is to one represented by a certain number of minutes or seconds to midnight, which is then assessed in January of each year.
- The main factors influencing the Clock are nuclear warfare, climate change, and artificial intelligence.
- The Bulletin's Science and Security Board monitors new developments in the life sciences and technology that could inflict irrevocable harm to humanity.
- The Clock's original setting in 1947 was 7 minutes to midnight. It has since been set backward 8 times and forward 18 times. The farthest time from midnight was 17 minutes in 1991, and the nearest is 89 seconds, set in January 2025.

**PYQ REFERENCE:**

**Q. Which one of the following statements best reflects the idea behind the "Fractional Orbital Bombardment System" often talked about in media?**

- (a) A hypersonic missile is launched into space to counter the asteroid approaching the Earth and explode it in space;
- (b) A spacecraft lands on another planet after making several orbital motions.
- (c) A missile is put into a stable orbit around the Earth and deorbits over a target on the Earth.
- (d) A spacecraft moves along a comet with the same speed and places a probe on its surface.

**Source:**

<https://indianexpress.com/article/opinion/editorials/the-third-edit-doomsday-clock-has-never-been-closer-to-calamity-9808642/>

### **3. Axiom Mission 4**

**Q. Consider the following statements.**

1. The mission is a collaboration between Axiom Space and NASA, aiming to enhance international cooperation in space exploration.
2. As a part of the mission, Captain Shubhanshu Shukla is the first Indian astronaut to travel to the International Space Station (ISS).

**Select the correct answer using the code given below.**

- (a) 1 only

- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (c) Both 1 and 2**

**Explanation:**

**In NEWS:** Recently, Group Captain Shubhanshu Shukla is poised to make history as the first Indian astronaut to travel to the International Space Station (ISS). **Hence statement 2 is correct.**

- Selected to pilot the Axiom Mission 4, Shukla represents a milestone for India's participation in human spaceflight.
- The mission is a collaboration between Axiom Space and NASA, aiming to enhance international cooperation in space exploration. **Hence statement 1 is correct.**

**Axiom Mission 4:**

- Axiom Mission 4 (or Ax-4) is a private spaceflight to the International Space Station. The flight will launch no earlier than April 2025 and last about 14 days. It will be operated by Axiom Space and use a SpaceX Crew Dragon spacecraft.
- The mission will launch from either the Kennedy Space Center's LC-39A or Cape Canaveral Space Force Station's SLC-40 launch facilities in Florida.
- It will use a Falcon 9 rocket to place the Crew Dragon spacecraft into low-Earth orbit (LEO).
- The flight is organized in collaboration with NASA and will be the fourth flight of Axiom Space after Axiom Mission 1, Axiom Mission 2, and Axiom Mission 3.
- The ESA part of the mission is named Ignis.

**PYQ REFERENCE:**

**Q. With reference to 'Astrosat', the astronomical observatory launched by India, which of the following statements is/are correct?**

1. Other than USA and Russia, India is the only country to have launched a similar observatory into space.
2. Astrosat is a 2000 kg satellite placed in an orbit at 1650 km above the surface of the Earth.

**Select the correct answer using the code given below.**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Source:**

<https://www.thehindu.com/sci-tech/science/my-journey-to-space-will-be-the-journey-of-14-billion-fellow-indians-group-captain-shubhanshu-shukla/article69160820.ece>

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#### 4. 2024 YR4

**Q. What is '2024 YR4', recently in the news?**

- (a) Newly discovered asteroid by NASA
- (b) Solar-powered two seater aircraft designed by Japan
- (c) Space observatory launched by China
- (d) Reusable rocket designed by ISRO

**Answer: (a) Newly discovered asteroid by NASA**

**Explanation:**

**In NEWS:** A newly discovered asteroid — called 2024 YR4 — has slightly more than 1% chance of crashing into Earth in 2032, National Aeronautics and Space Administration (NASA) officials said last week.

- The 2024 YR4 was first discovered in December last year by a telescope in Chile. The near-Earth asteroid is as big as a football field, measuring 40 to 100 metres across. **Hence option (a) is correct.**
- It came closest to Earth on Christmas Day — passing within roughly 800,000 kilometres of Earth, about twice the distance of the moon, according to a report by the Associated Press.
- Experts said the 2024 YR4 is big but not as big as the asteroid that wiped out dinosaurs and most other extant life some 66 million years ago. The 2024 YR4, however, can cause considerable localised damage in case it hits a populated area.
- Astronomers use something called the Torino Scale to categorise an object's destruction potential.
- The NASA JPL Center for Near-Earth Object Studies (CNEOS) has currently rated the 2024 YR4 a 3 on a scale from 0 to 10. Apophis asteroid, which was discovered in 2004, was initially rated 4 on the scale but was later downgraded as observations showed that it posed no threat for at least 100 years.
- The 2024 YR4 is expected to release 8 to 10 megatons of energy in case of a crash, according to scientists.

**PYQ REFERENCE:**

**Q. What is 'Greased Lightning10 (GL-10)', recently in the news?**

- (a) Electric plane tested by NASA
- (b) Solar-powered two seater aircraft designed by Japan
- (c) Space observatory launched by China
- (d) Reusable rocket designed by ISRO

**Q. The terms 'WannaCry, Petya and EternalBlue' sometimes mentioned in the news recently are related to**

- (a) Exoplanets
  - (b) Cryptocurrency
  - (c) Cyber attacks
  - (d) Mini satellites

**Source:**

<https://indianexpress.com/article/explained/explained-sci-tech/asteroid-earth-2032-9815247/>

## **5. PROJECT VISTAAR**

**Q. Which one of the following is the correct description of “Project VISTAAR”?**

- (a) It is an international alliance and a network of individuals and farming organizations interested in supporting and strengthening the development of organic animal husbandry.
- (b) It is a platform with a mission of encouraging the farmers to form Farmer Product Organisations or Agribusiness Consortiums, thus facilitating the access to global open markets to sell their products.
- (c) It is a digital platform fully integrated with service providers and built on blockchain that lets buyers, sellers and third parties trade fertilizers quickly and securely.
- (d) It is an initiative to support the development of robust Digital Public Infrastructure (DPI) for agricultural extension.

**Answer: (d) It is an initiative to support the development of robust Digital Public Infrastructure for agricultural extension.**

**Explanation:**

**In NEWS:** Launch of Project VISTAAR

**Project VISTAAR:**

- Project VISTAAR (Virtually Integrated System To Access Agricultural Resources) aims to develop a unified, federated digital ecosystem for agriculture by integrating reliable, validated and up-to-date resources across platforms.
- It focuses on enhancing scalability, accessibility and inclusivity of digital solutions while enabling two-way communication to incorporate farmer feedback.
- By driving center-state convergence, fostering partnerships with stakeholders and aligning with broader efforts of ICAR Institutes and State Agricultural Universities.
- VISTAAR supports the development of robust Digital Public Infrastructure (DPI) for agricultural extension. **Hence option (d) is correct.**
- Its goal is to empower farmers with actionable information, streamline collaboration and ensure the long-term sustainability of digital agricultural extension initiatives.

- It incorporates innovative solutions from over 12,000 agriculture-focused start-ups to address challenges in productivity, supply chain management, and market access.
- Digitalization of the existing agricultural extension system aims to expand its outreach substantially and enable every farmer to access high-quality advisory services on crop production, marketing, value and supply chain management and Climate Smart Agricultural (CSA) practices, weather advisories etc.
- The advisory services provide information about all Government schemes related to agriculture & allied sectors from which the farmers are benefited.
- VISTAAR aims integration with all initiatives and federal solutions via the network for access of farmers to up-to date information. This includes leveraging AI enabled chatbots deployed at the ground level and subsequent integration with Agristack.
- Efforts for VISTAAR includes extension worker training on the digital bots.
- This can be facilitated through existing partnerships and network volunteers for conducting training to Front Line Extension Workers (FLEW) to enhance video production skills and handling advanced IT tools to access required information at field level for providing further training to farmers in a phased manner.

**PYQ REFERENCE:**

**Q. Which one of the following is the correct description of “100 Million Farmers”?**

- (a) It is a platform for accelerating the transition towards food and water systems that are net-zero (carbon), nature-positive and that aims to increase farmer resilience.
- (b) It is an international alliance and a network of individuals and farming organizations interested in supporting and strengthening the development of organic animal husbandry.
- (c) It is a digital platform fully integrated with service providers and built on blockchain that lets buyers, sellers and third parties trade fertilizers quickly and securely.
- (d) It is a platform with a mission of encouraging the farmers to form Farmer Product Organisations or Agribusiness Consortia, thus facilitating the access to global open markets to sell their products.

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2099755>

## **6. GARBHINI-DRISHTI**

**Q. Consider the following statements with respect to GARBH-INI-DRISHTI:**

1. It is a data repository and information-sharing hub containing maternal and child health databases.
2. It empowers researchers to develop predictive models and interventions aimed at reducing preterm births and improving neonatal outcomes.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2



(d) Neither 1 nor 2

**Answer: (c) Both 1 and 2**

**Explanation:**

**In NEWS:** Launch of GARBHINI-DRISHTI

**GARBH-INi-DRISHTI:**

- GARBH-INi-DRISHTI is a groundbreaking data repository and information-sharing hub developed under the GARBH-INi program by the Translational Health Science and Technology Institute (THSTI) in India. **Hence statement 1 is correct.**
- Launched recently, this platform provides access to an extensive collection of clinical data, images, and biospecimens gathered from over 12,000 pregnant women, newborns, and postpartum mothers.
- By offering this centralized and comprehensive data repository, GARBH-INi-DRISHTI empowers researchers to develop predictive models and interventions aimed at reducing preterm births and improving neonatal outcomes, thereby advancing maternal and child health research in India and beyond.

**Key Features:**

- Researchers worldwide can utilize this platform to access one of South Asia's largest maternal and child health databases, facilitating transformative studies aimed at improving maternal and neonatal health outcomes. **Hence statement 2 is correct.**
- The repository is the result of collaborative efforts across India's leading research institutions and hospitals, representing a powerful synergy of expertise.
- GARBH-INi-DRISHTI features a data dashboard that provides a comprehensive overview of the pregnancy cohort datasets, serving as a gateway for researchers to explore and analyze the information.

**PYQ REFERENCE:**

**Q. Consider the following statements in relation to Janani Suraksha Yojana :**

1. It is a safe motherhood intervention of the State Health Departments.
2. Its objective is to reduce maternal and neonatal mortality among poor pregnant women.
3. It aims to promote institutional delivery among poor pregnant women.
4. Its objective includes providing public health facilities to sick infants up to one year of age.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2099214>

### 7. Very Short-Range Air Defence (VSHORAD) system

**Q. Which of the following statements are correct with respect to the Very Short Range Air Defence System (VSHORADS):**

1. It is a man-portable air-defense system (MANPADS) developed by DRDO.
2. The missile system has the capability to meet the needs of the Army, Navy and the Air Forces.
3. It can neutralise low altitude aerial threats at short ranges.

**Select the answer using the code given below:**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Answer: (d) 1, 2 and 3**

**Explanation:**

**In NEWS:** DRDO carries out three consecutive tests of Very Short-Range Air Defence system

**Very Short Range Air Defence System:**

- The Very Short Range Air Defence System, or VSHORADS, is a fourth generation, man-portable air-defense system (MANPADS) developed by Research Centre Imarat (RCI), a research lab under Defence Research and Development Organisation (DRDO), located in Hyderabad. **Hence statement 1 is correct.**
- It is designed for anti-aircraft warfare and neutralising low altitude aerial threats at short ranges. **Hence statement 3 is correct.**
- The missile system has the capability to meet the needs of all the three branches of the armed forces — the Army, Navy and the Air Forces. **Hence statement 2 is correct.**
- It uses an Infrared seeker-based guidance system.
- It is a critical requirement for the Army as it offers close air defence protection for mobile formations, especially in the growing threat of drones and loitering munitions.

**Applications of VSHORAD Systems in Warfare:**

- Protects frontline troops from aerial threats.
- Effective against enemy helicopters, UAVs, and fighter jets flying at low altitudes.
- Enhances mobility and flexibility in battlefield scenarios.
- Used in modern conflicts, including Ukraine-Russia war for drone and aircraft defence.

**PYQ REFERENCE:**

**Q. With reference to Agni-IV Missile, which of the following statement(s) is/are correct?**

1. It is surface-to-surface missile.
2. It is fuelled by liquid propellant only.
3. It can deliver one tonne nuclear warhead about 7500 km away.

**Select the correct answer using the codes given below.**

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Source:**

<https://www.thehindu.com/news/national/drdo-carries-out-three-consecutive-tests-of-very-short-range-air-defence-system/article69169680.ece>

## **8. Chang'e 7 mission**

**Q. What is 'Chang'e 7 mission', recently in the news?**

- (a) Reusable rocket designed by ISRO
- (b) Electric plane tested by NASA
- (c) Solar-powered two-seater aircraft designed by Japan
- (d) Robotic lunar exploration mission by China

**Answer: (d) Robotic lunar exploration mission by China**

**Explanation:**

**In NEWS:** China is taking lunar exploration to the next level with its ambitious Chang'e-7 mission, sending a flying robot to the moon's south pole in a groundbreaking search for water.

**Chang'e 7 mission:**

- Chang'e 7 is a planned robotic Chinese lunar exploration mission expected to be launched in 2026 to target the lunar south pole. **Hence option (d) is correct.**
- Like its predecessors, the spacecraft is named after the Chinese moon goddess Chang'e. The mission will include an orbiter, a lander, a mini-hopping probe, and a rover.
- Chang'e-7 will carry a total of 21 scientific payloads, including 6 international payloads, aiming to conduct detailed exploration of the environment and resources in the south polar region of the moon.
- Mission objectives include fixed-point landings.

- In situ observations of the permanently shadowed crater will be made by the mini-hopping probe, which will carry water molecule and hydrogen isotope analyzers.

**Objectives of Chang'e 7 mission:**

- Investigation and study of lunar surface environment and water ice in its soil.
- High-precision investigation and study of morphology, composition and structure of the Moon.
- Investigation and study of interior structure, magnetic field and thermal characteristics of the Moon.
- General investigation and study of surface environment of the south pole of the Moon.
- Moon-based observation and study of the Earth's magnetotail and plasmasphere.

**Mission Components:**

- Orbiter: Conducts comprehensive mapping and analysis of the lunar surface.
- Lander: Facilitates the deployment of other mission elements to the lunar surface.
- Rover: Performs detailed geological surveys and analyzes the composition of the lunar terrain.
- Flying Detector: An innovative robotic "flyer" designed to access and study permanently shadowed regions, such as craters, which are challenging for traditional rovers. This detector can land reliably on various slopes, mimicking human-like flexibility during landing.

**PYQ REFERENCE:**

**Q. What is 'Greased Lightning-10 (GL-10)', recently in the news?**

- (a) Electric plane tested by NASA
- (b) Solar-powered two-seater aircraft designed by Japan
- (c) Space observatory launched by China
- (d) Reusable rocket designed by ISRO

**Source:**

<https://timesofindia.indiatimes.com/science/chinas-change-7-mission-sends-flying-robot-to-moons-south-pole-in-groundbreaking-search-for-water/articleshow/117910459.cms>

## **9. Gyan Bharatam Mission**

**Q. Consider the following statements with respect to the Gyan Bharatam Mission:**

1. It undertakes the survey, documentation and conservation of India's manuscript heritage lying with academic institutions, museums, libraries, and private collectors.
2. The mission provides for the establishment of a National Digital Repository of Indian Knowledge Systems.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (c) Both 1 and 2**

**Explanation:**

**In NEWS:** New mission for manuscripts announced in Union Budget

**Gyan Bharatam Mission:**

- The 'Gyan Bharatam Mission' is for undertaking the survey, documentation and conservation of India's manuscript heritage lying with academic institutions, museums, libraries, and private collectors. **Hence statement 1 is correct.**
- It intends to cover more than one crore manuscripts.
- The Gyan Bharatam Mission aims to preserve India's rich intellectual heritage, encompassing ancient texts across various fields such as Ayurveda, mathematics, astronomy, linguistics, and philosophy.
- By integrating this traditional knowledge with modern education and technology, the mission seeks to encourage research, innovation, and sustainable development.
- To accommodate this new initiative, the budget allocation for the National Manuscripts Mission (NMM) has been hiked from ₹3.5 crore to ₹60 crore.

**Objectives of the Mission:**

- Survey and Documentation: Conduct a nationwide survey to identify and catalog manuscripts housed in academic institutions, museums, libraries, and private collections.
- Conservation: Implement measures to preserve over one crore (10 million) manuscripts, ensuring their longevity and accessibility for future generations.
- National Digital Repository: Establish a National Digital Repository of Indian Knowledge Systems (IKS) to digitize and centralize traditional knowledge, making it accessible to researchers, students, and institutions worldwide. **Hence statement 2 is correct.**

**Source:**

<https://www.thehindu.com/business/budget/new-mission-for-manuscripts-announced-in-union-budget/article69168643.ece>

## 10. Chandrayaan-4

**Q. Which among the following is the aim of the Chandrayaan-4 mission?**

- (a) to collect samples from the moon's surface and bring them back to the Earth.
- (b) to reach the moon's south polar region.
- (c) to map the moon's surface in infrared, visible, and X-ray light
- (d) to discovered the presence of water on the moon

**Answer: (a) to collect samples from the moon's surface and bring them back to the Earth.**

**Explanation:**

**In NEWS:** India to launch Chandrayaan-4 in 2027, aims to bring back moon rock

**Chandrayaan-4:**

- The Chandrayaan-4 mission aims to collect samples from the moon's surface and bring them back to the Earth. **Hence option (a) is correct.**
- Chandrayaan-4 will involve at least two separate launches of the heavylift LVM-3 rocket that will carry five different components of the mission which will be assembled in orbit.

**Chandrayaan-1:**

- Launched in 2008, this was the first lunar space probe from ISRO
- Mapped the moon's surface in infrared, visible, and X-ray light
- Discovered water on the moon
- Launched the Moon Impact Probe (MIP) to test systems for future landings

**Chandrayaan-2:**

- Launched in 2019, this was ISRO's first lunar lander
- Consists of an orbiter, lander named Vikram, and rover named Pragyan
- The lander and rover crashed during their landing attempt
- The orbiter is still functional and is expected to aid in communications with Chandrayaan-3

**Chandrayaan-3:**

- Launched in July 2023, this was ISRO's first lunar lander to reach the moon's south polar region
- Consists of a lander named Vikram and rover named Pragyan
- Made India the first nation to successfully land a spacecraft in the lunar south pole region

**PYQ REFERENCE:****Q. Consider the following statements: The Mangalyaan launched by ISRO**

1. is also called the Mars Orbiter Mission
2. made India the second country to have a spacecraft orbit the Mars after USA
3. made India the only country to be successful in making its spacecraft orbit the Mars in its very first attempt

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

**Source:**

<https://www.thehindu.com/news/national/chandrayaan-4-to-launch-in-2027-jitendra-singh/article69187145.ece>

## **11. Nuclear Energy Mission and Small Modular Reactors**

**Q. Consider the following statements:**

**Statement-I:** Small modular reactors (SMRs) are advanced nuclear reactors that have a power capacity of up to 700 MW(e) per unit.

**Statement-II:** Small modular reactors (SMRs) has about one-third of the generating capacity of traditional nuclear power reactors

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-I explains Statement-II  
(b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I  
(c) Statement-I is correct, but Statement-II is incorrect  
(d) Statement-I is incorrect, but Statement-II is correct

**Answer: (d) Statement-I is incorrect, but Statement-II is correct****Explanation:**

**In NEWS:** Union Budget 2025 announced a new nuclear mission for small modular reactors R&D.

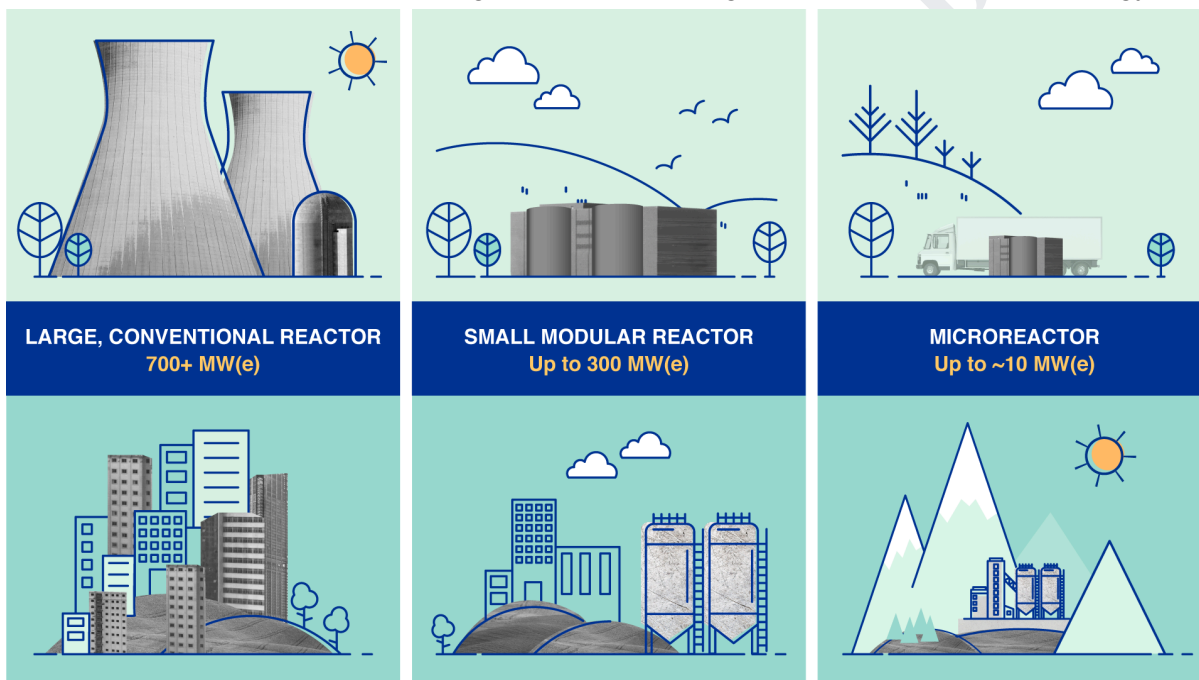
**Nuclear Energy Mission (NEM):**

- A flagship initiative announced in Union Budget 2025-26 to accelerate India's nuclear power capacity towards the target of 100 GW by 2047.
- It focuses on Small Modular Reactors (SMRs), expansion of Bharat Small Reactors (BSRs), and policy reforms to attract private and foreign investment in nuclear energy.



### Small modular reactors (SMRs):

- Small modular reactors (SMRs) are advanced nuclear reactors that have a power capacity of up to **300 MW(e) per unit**, which is about **one-third** of the generating capacity of traditional nuclear power reactors. **Hence Statement-I is incorrect, but Statement-II is correct.**
- SMRs, which can produce a large amount of low-carbon electricity, are:
  - Small – physically a fraction of the size of a conventional nuclear power reactor.
  - Modular – making it possible for systems and components to be factory-assembled and transported as a unit to a location for installation.
  - Reactors – harnessing nuclear fission to generate heat to produce energy.



### PYQ REFERENCE:

**Q. India is an important member of the 'International Thermonuclear Experimental Reactor'. If this experiment succeeds, what is the immediate advantage for India?**

- (a) It can use thorium in place of uranium for power generation
- (b) It attain a global role in satellite-navigation
- (c) It can drastically improve the efficiency of its fission reactors in power generation
- (d) It can build fusion reactors for power generation

### Source:

<https://indianexpress.com/article/upsc-current-affairs/upsc-essentials/upsc-knowledge-nugget-nuclear-energy-mission-modular-reactors-prelims-9827684/>

## 12. India - U.K. defence agreements

**Q. Consider the following:**

1. Man Portable Air Defence Systems (MANPADS)
2. Terminal High Altitude Area Defence (THAAD)
3. Lightweight Multirole Missiles (LMM)
4. Advanced Short-Range Air to Air Missile (ASRAAM)

**Which of the above mentioned defence agreements have been signed between India and UK?**

- (a) 1 and 2
- (b) 2 and 3 only
- (c) 1, 3 and 4
- (d) 2, 3 and 4

**Answer: (c) 1, 3 and 4**

**Explanation:**

**In NEWS:** India, U.K. announce several defence agreements, U.K. sets up dedicated cell in its MoD focussed on India

- Agreements signed for production of Man Portable Air Defence Systems (MANPADS) and Lightweight Multirole Missiles (LMM), as well as establishment of an Advanced Short-Range Air to Air Missile (ASRAAM) assembly and test facility in India. **Hence statements 1, 3, and 4 are correct.**
- **Man-portable air-defense systems (MANPADS or MPADS)** are portable shoulder-launched surface-to-air missiles. They are guided weapons and are a threat to low-flying aircraft, especially helicopters and also used against low-flying cruise missiles. These short-range missiles can also be fired from vehicles, tripods, weapon platforms, and warships.
- **The Lightweight Multi-role Missile (LMM)** is a lightweight, precision strike, multirole missile. LMM is designed to be fired from a variety of tactical platforms on land, air, and sea against a wide range of conventional and asymmetric threats, including armoured personnel carriers (APC), fast in-shore attack craft (FIAC) and UASs.
- **ASRAAM, Advanced Short Range Air-to-Air Missile**, is a highly agile missile which is due to be deployed on the Tornado F3 and Harrier GR7 to replace the Sidewinder AIM-9L missile, and will also be fitted to Eurofighter.
- **Terminal High Altitude Area Defense (THAAD)** is a **US anti-ballistic missile system** that intercepts and destroys missiles during their descent or reentry. It's a ground-based system that can be deployed quickly and transported anywhere in the world. **Hence statement 2 is incorrect.**

**PYQ REFERENCE:**

**Q. What is "Terminal High Altitude Area Defence (THAAD)", sometimes seen in the news?**

- (a) An Israeli radar system
- (b) India's indigenous anti - missile programme
- (c) An American anti - missile system
- (d) A defence collaboration between Japan and South Korea

**Source:**

<https://www.thehindu.com/news/national/india-uk-announce-several-defence-agreements-uk-sets-up-dedicated-cell-in-its-mod-focussed-on-india/article69203574.ece>

### 13. National Gene Bank

**Q. With reference to the National Gene Bank (NGB) of India, Consider the following statements.**

1. It stores both the plant and animal genetic resources for future generations.
2. The NGB is part of the National Bureau of Plant Genetic Resources (NBPGR).
3. India's first gene bank was set up in 1996 by the Indian Council of Agricultural Research-National Bureau of Plant Genetic Resources (ICAR-NBPGR) in New Delhi.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Answer: (c) All three**

**Explanation:**

**In NEWS:** Budget 2025-26: India to set up second national gene bank to ensure future food and nutritional security

**The National Gene Bank (NGB):**

- The National Gene Bank is a facility that stores plant and animal genetic resources for future generations. **Hence statement 1 is correct.**
- The NGB is part of the National Bureau of Plant Genetic Resources (NBPGR) in New Delhi. **Hence statement 2 is correct.**
- It preserves seeds, pollen, and other plant genetic resources for future generations
- It conserves indigenous livestock biodiversity
- It provides raw materials for researchers and breeders to improve crops and conduct basic research

- India's first gene bank was set up in 1996 by the Indian Council of Agricultural Research-National Bureau of Plant Genetic Resources (ICAR-NBPGR) in New Delhi.  
**Hence statement 3 is correct.**
- This bank comprises 12 regional stations across the country for collection and storage of vital crop germplasms.
- These germplasms are the genetic constituents of plants or animals that are used in research, conservation and crop breeding.

**Source:**

<https://www.downtoearth.org.in/agriculture/budget-2024-25-india-to-set-up-second-national-gene-bank-to-ensure-future-food-and-nutritional-security>

### 14. Srjanam rig

**Q. "Srjanam rig" are often discussed in the context of:**

- (a) Assisted reproductive technologies
- (b) Drug delivery nanotechnologies
- (c) Vaccine production technologies
- (d) Bio Medical Waste Treatment technologies

**Answer: (d) Bio Medical Waste Treatment technologies**

**Explanation:**

**In NEWS:** Union Minister Dr. Jitendra Singh today launched India's first indigenous Automated Bio Medical Waste Treatment Plant at AIIMS New Delhi.

**Hence option (d) is correct.**

- The Srjanam rig is designed to address the critical issue of disinfecting and treating pathogenic biomedical waste—such as blood, urine, sputum, and laboratory disposables—without the environmental drawbacks of conventional incinerators.
- Traditional biomedical waste treatment methods often rely on incineration, which is costly, energy-intensive, and contributes to air pollution. In contrast, the Srjanam rig operates with advanced technology that does not require incineration, thereby offering a more eco-friendly approach to waste disposal.
- One of the unique features of the rig is its ability to neutralize the foul odors typically associated with biomedical waste, replacing them with a pleasant fragrance. This makes the treatment process more hygienic and user-friendly, particularly in healthcare facilities where the presence of unpleasant smells can be problematic. Additionally, the Srjanam rig has a daily treatment capacity of 400 kg of biomedical waste, making it suitable for handling waste from various medical facilities.
- The rig's initial phase can treat up to 10 kg of degradable medical waste per day, gradually ramping up to its full capacity. This scalable feature ensures that the rig can

accommodate the needs of both smaller and larger healthcare establishments. Dr. Singh noted that the introduction of Srjanam is a major step forward in revolutionizing waste management in India, which will contribute to better environmental practices while addressing the challenges posed by medical waste disposal.

**PYQ REFERENCE:**

**Q. "Membrane Bioreactors" are often discussed in the context of:**

- (a) Assisted reproductive technologies
- (b) Drug delivery nanotechnologies
- (c) Vaccine production technologies
- (d) Wastewater treatment technologies

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2101416>

## 15. Cryogenic Engine

**Q. Consider the following statements.**

1. Cryogenic engines use liquid hydrogen (LH<sub>2</sub>) as fuel and liquid oxygen (LOX) as oxidizer.
2. Cryogenic engines are more efficient than solid and earth-storable liquid propellant rocket stages.
3. The first cryogenic rockets were used in the ISRO's Chandrayaan I mission.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 and 3
- (c) 1 and 2
- (d) 3 only

**Answer: (c) 1 and 2**

**Explanation:**

**In NEWS:** ISRO successfully carries out vacuum ignition trial of cryogenic engine

**Cryogenic Engine:**

- A cryogenic engine is a rocket engine that uses liquefied gases as fuel and oxidizer.
- These gases are stored at very low temperatures. Cryogenic engines are used in the upper stage of space launch vehicles.

**How does it work?**

- Cryogenic engines use liquid hydrogen (LH<sub>2</sub>) as fuel and liquid oxygen (LOX) as oxidizer. **Hence statement 1 is correct.**
  - Due to the high energy density and low molecular weight of hydrogen, the LH<sub>2</sub>/LOX combination results in a very high specific impulse.

- The propellants are pumped using turbo pumps that run at high speeds.
- The propellants are fed to the main turbopump from the respective tanks using booster pumps.
- The thrust and mixture ratio are controlled by two independent regulators.
- The stage is controlled during its thrusting phase using two gimbaled steering engines.

#### **Advantages**

- Cryogenic engines are more efficient than solid and earth-storable liquid propellant rocket stages. **Hence statement 2 is correct.**
- They use less fuel.
- Hydrogen-oxygen combustion emits only steam, making cryogenic propulsion a clean, carbon-free solution.

#### **History**

- The first cryogenic rockets were used in the US Space Program's Atlas-Centaur mission. **Hence statement 3 is incorrect.**
- The Saturn V rocket, which took humans to the Moon, used a cryogenic engine.

#### **PYQ REFERENCE:**

**Q. With reference to India's satellite launch vehicles, consider the following statements:**

1. PSLVs launch the satellite useful for Earth resources monitoring whereas GSLVs are designed mainly to launch communication satellites.
2. Satellites launched by PSLV appear to remain permanently fixed in the same position in the sky, as viewed from a particular location in Earth.
3. GSLV Mk III is a fourstaged launch vehicle with the first and third stages using solid rocket motors; and the second and fourth stages using liquid rocket engines.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 and 3  
(c) 1 and 2  
(d) 3 only

#### **Source:**

<https://www.thehindu.com/sci-tech/science/isro-successfully-carries-out-vacuum-ignition-trial-of-cryogenic-engine/article69195344.ece>

### **16. International Thermonuclear Experimental Reactor [ITER]**

**Q. Consider the following countries:**

1. China
2. India
3. Japan
4. Russia
5. South Korea

- 6. United States
- 7. Australia

**Which of the above countries are part of the funding and management framework of the International Thermonuclear Experimental Reactor [ITER] located in France?**

- (a) 1, 2, 3 and 7 only
- (b) 2, 4, 5 and 6 only
- (c) 1, 2, 3, 4, 5 and 6 only
- (d) 1, 2, 3, 4, 5, 6 and 7

**Answer: (c) 1, 2, 3, 4, 5 and 6 only**

**Explanation:**

**In NEWS:** Prime Minister and President of France jointly visit ITER facility

**The International Thermonuclear Experimental Reactor:**

- The International Thermonuclear Experimental Reactor (ITER) is the world's largest nuclear fusion experiment, aimed at demonstrating the feasibility of fusion energy as a safe, limitless, and sustainable power source.
- Its objective is to prove that nuclear fusion can produce net energy gain for future power plants.
- ITER is funded and run by seven member parties: China, the European Union, India, Japan, Russia, South Korea and the United States. **Hence option (c) is correct.**
- India, through the Institute for Plasma Research (IPR), Gujarat, is supplying key components, including the Cryostat, the world's largest vacuum chamber, built by Larsen & Toubro.
- ITER is supervised by a governing body known as the ITER Council that is composed of representatives of the seven signatories to the ITER Agreement.

**The project has aims to:**

- Momentarily produce a fusion plasma with thermal power ten times greater than the injected thermal power (a Q value of 10).
- Produce a steady-state plasma with a Q value greater than 5. (Q = 1 is scientific breakeven, as defined in fusion energy gain factor.)
- Maintain a fusion pulse for up to 8 minutes.
- Develop technologies and processes needed for a fusion power station — including superconducting magnets and remote handling (maintenance by robot).
- Verify tritium breeding concepts.
- Refine neutron shield / heat conversion technology (most of the energy in the D+T fusion reaction is released in the form of fast neutrons).
- Experiment with burning plasma state.

**Nuclear Fusion:**

- Fusion is the process that powers the Sun and stars.



- In this reaction:
  - Two hydrogen isotopes (Deuterium & Tritium) fuse together.
  - This produces Helium & an enormous amount of energy.
  - Unlike fission (used in nuclear power plants), fusion does not produce long-lived radioactive waste.

**PYQ REFERENCE:**

**Q. India is an important member of the 'International Thermonuclear Experimental Reactor'. If this experiment succeeds, what is the immediate advantage of India?**

- (a) It can use thorium in place of uranium for power generation.
- (b) It can attain a global role in satellite navigation
- (c) It can drastically improve the efficiency of its fission reactors in power generation
- (d) It can build fusion reactors for power generation

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2102336>

## 17. Neutrino

**Q. Studying neutrinos has applications in which of the following?:**

1. Knowing the evolution of the Universe
2. Studying ice sheet movements
3. Tracking nuclear activity
4. Understanding the composition of the Earth's interior
5. Radiation-free medical diagnostics.
6. Interference-free communication for submarine operations

**Select the correct answer using the code given below.**

- (a) 1, 3 and 6 only
- (b) 2, 3, 4 and 5 only
- (c) 1, 2 and 4 only
- (d) 1, 2, 3, 4, 5 and 6

**Answer: (d) 1, 2, 3, 4, 5 and 6**

**Explanation:**

**In NEWS:** High-energy cosmic neutrino detected under Mediterranean Sea

**Neutrino:**

- A neutrino is a tiny, nearly massless subatomic particle that interacts very weakly with matter, making it extremely difficult to detect.
- It is one of the most abundant particles in the universe and plays a crucial role in nuclear reactions, astrophysics, and fundamental physics research.

- A neutrino is an elementary particle that interacts via weak interaction and gravity.
- The neutrino is so named because it is electrically neutral and because its rest mass is so small that it was long thought to be zero.
- The rest mass of the neutrino is much smaller than that of the other known elementary particles (excluding massless particles).
- The weak force has a very short range, the gravitational interaction is extremely weak due to the very small mass of the neutrino, and neutrinos do not participate in the electromagnetic interaction or the strong interaction.
- Thus, neutrinos typically pass through normal matter unimpeded and undetected.

**There are three flavors of neutrinos:**

- Electron Neutrino ( $\nu_e$ )
- Muon Neutrino ( $\nu_\mu$ )
- Tau Neutrino ( $\nu_\tau$ )

**Significance of studying Neutrinos:**

- Neutrinos are produced in nuclear fusion reactions in the Sun and provide insights into stellar processes.
- Studying neutrino behavior helps physicists understand Big Bang conditions and the evolution of the cosmos.
- Neutrino oscillations suggest new physics beyond the Standard Model of Particle Physics.
- High-energy neutrinos from distant galaxies provide information about black holes, supernovae, and gamma-ray bursts.
- Unlike light or radio waves, neutrinos can travel uninterrupted through cosmic dust and matter, making them ideal messengers of deep-space events.
- Neutrino emissions from nuclear reactors can be monitored to track unauthorized nuclear activity and prevent nuclear proliferation.
- Helps in monitoring reactor efficiency by analyzing the neutrino flux from fission reactions.
- Geo-neutrinos, produced by radioactive decay of elements (Uranium, Thorium, Potassium) inside the Earth, help scientists study the heat generation and composition of the Earth's interior.
- Neutrino-based imaging is being explored for cancer detection and deep-body scans, similar to PET (Positron Emission Tomography) scans.
- Future technologies could use neutrinos for high-precision, radiation-free medical diagnostics.
- Neutrino observatories in Antarctica (IceCube Neutrino Observatory) help in studying climate patterns and ice sheet movements.
- Helps in analyzing how cosmic rays impact Earth's atmosphere and radiation levels.
- Since neutrinos can penetrate through solid rock and water, they could enable long-distance, interference-free communication for submarine operations, space missions, and disaster zones.

**Hence option (d) is correct.**

**PYQ REFERENCE:**

**Q. In the context of modern scientific research, consider the following statements about 'ice Cube', a particle detector located at South Pole, which was recently in the news:**

1. It is the world's largest neutrino detector, encompassing a cubic kilometre of ice.
2. It is a powerful telescope to search for dark matter.
3. It is buried deep in the ice.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Source:**

<https://www.thehindu.com/sci-tech/science/high-energy-cosmic-neutrino-detected-under-mediterranean-sea/article69215130.ece>

## **18. Foot-and-Mouth Disease**

**Q. With reference to the 'Foot-and-Mouth Disease in cattle' consider the following statements.**

1. Foot and mouth disease (FMD) is a severe, highly contagious bacterial disease of livestock.
2. The disease affects cattle, swine, sheep, goats and other cloven-hoofed ruminants.
3. It is a transboundary animal disease (TAD) that deeply affects the production of livestock and can even be transmitted to humans.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 and 3
- (c) 1 and 3
- (d) 2 only

**Answer: (d) 2 only**

**Explanation:**

**In NEWS:** The Union Animal Husbandry and Dairying Ministry aims to strengthen disease control programmes through enhanced surveillance and developing Foot-and-Mouth Disease-free zones.

**Foot and mouth disease:**

- Foot and mouth disease (FMD) is a severe, highly contagious viral disease of livestock that has a significant economic impact. **Hence statement 1 is incorrect.**
- The disease affects cattle, swine, sheep, goats and other cloven-hoofed ruminants. **Hence statement 2 is correct.**
- It is a transboundary animal disease (TAD) that deeply affects the production of livestock and disrupts regional and international trade in animals and animal products. It doesn't affect humans. **Hence statement 3 is incorrect.**
- Members that are currently free of FMD without vaccination remain under constant threat of an incursion.

#### **Symptoms in cattle**

- Fever
- Blisters on the lips, tongue, mouth, udder, and feet
- Excessive salivation
- Loss of appetite
- Lameness
- Reduced milk yield
- Abortions
- Loss of body condition

#### **How it spreads**

- Direct contact with an infected animal
- Contact with contaminated animal parts
- Contact with contaminated objects, such as farm equipment
- Artificial insemination
- Contaminated biologicals such as hormones or vaccines

#### **Prevention**

- Early detection and warning systems
- Effective surveillance
- Disinfection of floors, premises, and all infected materials
- Foot bath at the entrance of the farm
- Use of antiseptic lotion and fly repellents
- Sprinkling lime powder around the animal houses

#### **PYQ REFERENCE:**

##### **Q. Consider the following statements:**

1. In tropical regions, Zika virus disease is transmitted by the same mosquito that transmits dengue.
2. Sexual transmission of Zika virus disease is possible.

##### **Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

Source:

<https://www.thehindu.com/news/national/centre-aims-to-strengthen-veterinary-services-through-ppps/article69226625.ece>

[https://www.woah.org/en/disease/foot-and-mouth-disease/#main\\_content](https://www.woah.org/en/disease/foot-and-mouth-disease/#main_content)

## **19. Bacteria-made Band-Aid**

**Q. Consider the following statements:**

1. While cellulose is a basic structural material of most plants, it is also produced by bacteria.
2. Cellulose produced by bacteria cannot be broken down by microorganisms.
3. Plant cellulose exhibits higher purity and strength than bacterial cellulose.
4. It can be used to fabricate 3D cell culture platforms.

**How many of the statements given above are correct?**

- (a) Only one
- (b) Only two
- (c) Only three
- (d) All four

**Answer: (b) Only two**

**Explanation:**

**In NEWS:** Bacterial cellulose can be used as a bandage to significantly improve healing and regeneration in plants, researchers reported in a study published last week in the journal Science Advances.

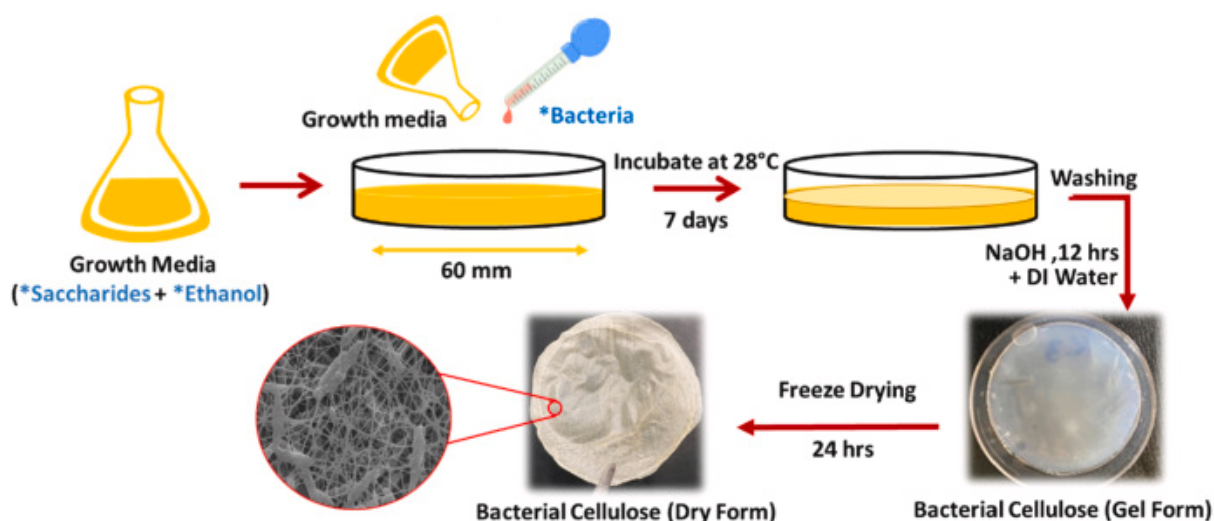
**Bacterial cellulose:**

- Bacterial cellulose is a natural polymer produced by certain bacteria.
- Bacterial cellulose is an organic compound with the formula produced by certain types of bacteria.
- It has high water-holding capacity, crystallinity, and suspension stability.
- It is non-toxic and can interact with hydrophilic or hydrophobic biopolymers.
- It can be broken down by microorganisms. **Hence statement 2 is incorrect.**
- While cellulose is a basic structural material of most plants, it is also produced by bacteria, principally of the genera Komagataeibacter, Acetobacter, Sarcina ventriculi and Agrobacterium. **Hence statement 1 is correct.**
- Bacterial, or microbial, cellulose has different properties from plant cellulose and is characterized by high purity, strength, moldability and increased water holding ability. **Hence statement 3 is incorrect.**
- It has thus far been widely used in human medicine, often for wound healing.

- The latest findings suggest potential applications in agriculture, such as facilitating grafting, preserving cut plant material, or serving as a growth medium in laboratories.

#### Production of Bacterial cellulose:

- It is produced by fermentation using static or agitated cultures
- Agitated cultures produce the highest yield of bacterial cellulose
- Reactors can be used to reduce culture time and prevent the production of cellulose-negative mutants



#### Applications of Bacterial cellulose:

- It is used to improve the texture, firmness, and retention properties of food.
- It is used in dental implants, artificial blood vessels, and vascular grafts.
- It promotes re-epithelization, which leads to faster wound healing.
- It can be used to control drug release in biomedical applications.
- It is used to fabricate 3D cell culture platforms. **Hence statement 4 is correct.**
- It can be used as an alternative to plastic-based packaging.
- It can be used to produce Biodegradable Textile Fiber.
- It can be used in bioelectronics and soft robotics due to its flexibility.

#### PYQ REFERENCE:

**Q. Improper handling and storage of cereal grains and oilseeds result in the production of toxins known as aflatoxins which are not generally destroyed by normal cooking process. Aflatoxins are produced by**

- Bacteria
- Protozoa
- Moulds
- Viruses

Source:

<https://indianexpress.com/article/explained/explained-sci-tech/bacteria-made-band-aid-for-plants-what-study-found-9841587/>

## **ENVIRONMENT AND AGRICULTURE**

### **1. New Ramsar sites in India**

**Q. With reference to the Ramsar sites in India, consider the following statements:**

1. Sakkarakottai, Therthangal, Khecheopalri Wetland and Udhwa Lake are among the latest additions to the list of Ramsar sites in India.
2. Tamil Nadu has the highest number of Ramsar sites in India.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (c) Both 1 and 2**

**Explanation:**

**In NEWS:** Ramsar tag for few more wetlands in India.

**Ramsar sites in India:**

- India has added four new Ramsar sites: Sakkarakottai, Therthangal, Khecheopalri Wetland (Sikkim), and Udhwa Lake (Jharkhand), bringing the total to 89. **Hence statement 1 is correct.**
- The latest additions were announced ahead of World Wetlands Day.
- The designation is granted under the Ramsar Convention aimed at protecting and wisely using wetlands through local conservation, national policies, and global cooperation.
- Wetlands covered under the treaty include inland ecosystems such as marshes, lakes, rivers, and peatlands, as well as coastal habitats such as saltmarshes, mangroves, mudflats, seagrass beds, and even coral reefs.

**Wetlands in Tamil Nadu:**

- Two bird sanctuaries in Tamil Nadu's Ramanathapuram district — Sakkarakottai and Therthangal — have been designated as Ramsar sites.
- With this, the State has 20 Ramsar sites and continues to have the highest number of Ramsar sites in India. Uttar Pradesh follows with 10 sites. **Hence statement 2 is correct.**



- Ramanathapuram hosts two other Ramsar sanctuaries: Chitrangudi and Kanjirankulam.
- Chitrangudi Bird Sanctuary, Gulf of Mannar Marine Biosphere Reserve, Kanjirankulam Bird Sanctuary, Karaivetti Bird Sanctuary, Karikili Bird Sanctuary, Koonthankulam Bird Sanctuary, Longwood Shola Reserve Forest, Pallikarnai Marsh Reserve Forest, Pichavaram Mangrove, Point Calimere Wildlife and Bird Sanctuary, Suchindram Theroor Wetland Complex, Udhayamarthandapuram Bird Sanctuary, Vadavur Bird Sanctuary, Vedanthangal Bird Sanctuary, Vellode Bird Sanctuary, Vembannur Wetland Complex, Nanjarayan Bird Sanctuary, Kazhuveli Bird Sanctuary, Sakkarakottai and Therthangal are the 20 Ramsar sites in the state.

**Sakkarakottai Wetland:**

- The Site is a peri-urban wetland located within three villages in southern Tamil Nadu.
- It supports more than 120 species of birds.
- The wetland's water, enriched by bird droppings, is used by local communities in agriculture. This relationship has fostered sentiments supportive to the protection of birds among villagers.

**Therthangal Wetland:**

- Ninety-six bird species have been recorded in the Site, including the endangered Egyptian vulture (*Neophron percnopterus*) and the vulnerable Indian spotted eagle (*Clanga hastata*). The babul (*Acacia nilotica*) trees planted by the forest department provide popular nesting sites for migratory birds.

**Khecheopalri Lake:**

- The lake is sacred for both Buddhists and Hindus, and is believed to be a wish fulfilling lake.
- The lake is surrounded by a broad-leaved mixed temperate forest.
- However, the vegetation in the lake comprises Macrophytes, Phytoplankton and Zooplankton.

**Udhwa Lake:**

- The Site comprises two interconnected wetlands, Pataura Lake and Barhel Lake, which are surrounded by the hillocks of the Rajamahar Hills and linked by a channel to the Ganga River.
- Local communities use the banks of the wetlands for agriculture and sustenance fishing.

**PYQ REFERENCE:****Q. With reference to the wetlands of India, consider the following statements:**

1. The country's total geographical area under the category of wetlands is recorded more in Gujarat as compared to other States.
2. In India, the total geographical area of coastal wetlands is larger than that of inland wetlands.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2

(d) Neither 1 nor 2

**Source:**

<https://www.thehindu.com/news/national/tamil-nadu/ramsar-tag-for-two-more-wetlands-in-tamil-nadu-total-now-20/article69164890.ece#:~:text=Two%20bird%20sanctuaries%20in%20Tamil,Pradesh%20follows%20with%2010%20sites.>

## 2. Rusty spotted cat

**Q. Consider the following statements.**

1. The Rusty spotted cat is one of the world's smallest cats.
2. It is listed under Near Threatened on the IUCN Red List.
3. It occurs mainly in moist and dry deciduous forests as well as scrub and grassland, but is likely absent in evergreen forest.

**Which of the statements given above are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1,2 and 3

**Answer: (d) 1,2 and 3**

**Explanation:**

**In NEWS:** Researchers tracking pangolins stunned by rare sight—a rusty-spotted cat in Purulia forest.

**Rusty spotted cat:**

- The rusty-spotted cat (*Prionailurus rubiginosus*) is one of the cat family's smallest members, of which historical records are known only from India and Sri Lanka. **Hence statement 1 is correct.**
- In 2012, it was also recorded in the western Terai of Nepal.
- Since 2016, the global wild population is listed as Near Threatened on the IUCN Red List as it is fragmented and affected by loss and destruction of its prime habitat, deciduous forests. **Hence statement 2 is correct.**
- The distribution of the rusty-spotted cat is relatively restricted. It occurs mainly in moist and dry deciduous forests as well as scrub and grassland, but is likely absent in evergreen forest. **Hence statement 3 is correct.**
- It prefers dense vegetation and rocky areas.
- In India, it was long thought to be confined to the south, but records have established that it occurs over much of the country.

- It was observed in eastern Gujarat's Gir National Park, in Maharashtra's Tadoba-Andhari Tiger Reserve and along India's Eastern Ghats.
- Camera trapping revealed its presence in Pilibhit Tiger Reserve in the Indian Terai and in Nagzira Wildlife Sanctuary in Maharashtra.

**PYQ REFERENCE:****Q. Consider the following statements:**

1. Lions do not have a particular breeding season.
2. Unlike most other big cats, cheetahs do not roar.
3. Unlike male lions, male leopards do not proclaim their territory by scent marking.

**Which of the statements given above are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Source:**

<https://theprint.in/environment/researchers-tracking-pangolin-poachers-stunned-by-rare-sight-a-rusty-spotted-cat-in-purulia-forest/2470543/>

### 3. World Wetlands Day

**Q. Consider the following statements:**

1. World Wetlands Day is observed on 2nd February every year worldwide to commemorate the signing of the Ramsar Convention on Wetlands of International Importance in 1971.
2. India has been a party to the Ramsar Convention on Wetlands since 1982.
3. Under Ramsar Convention, it is mandatory on the part of the Government of India to protect and conserve all the wetlands in the territory of India.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 3 only
- (d) 1, 2 and 3

**Answer: (a) 1 and 2 only**

**Explanation:**

**In NEWS:** World Wetlands Day 2025, themed 'Protecting Wetlands for our Common Future', celebrated at Parvati Arga Ramsar Site, in Gonda, Uttar Pradesh

**About World Wetlands Day (WWD):**

- World Wetlands Day is observed on 2nd February every year worldwide to commemorate the signing of the Ramsar Convention on Wetlands of International Importance in 1971. **Hence statement 1 is correct.**
- India is a party to the Convention since 1982. India has recently increased its tally of Ramsar sites (Wetlands of International Importance) to 89 by designating four more wetlands as Ramsar sites. **Hence statement 2 is correct.**
- While India is a signatory to the Ramsar Convention and has designated several wetlands as Ramsar Sites, it is not mandatory under the convention for India to protect and conserve all wetlands within its territory. **Hence statement 3 is incorrect.**
- Udhwa Lake in Jharkhand, Theerthangal and Sakkarakottai in Tamil Nadu and Khecheopalri in Sikkim. These are the first Ramsar Sites of Sikkim and Jharkhand.
- With the addition of these wetlands to List of Wetlands of International Importance, the total area covered under Ramsar sites is now 1.358 million ha.
- Tamil Nadu continues to have maximum number of Ramsar Sites (20 sites) followed by Uttar Pradesh (10 sites).

**PYQ REFERENCE:****Q. Consider the following statements:**

1. Under Ramsar Convention, it is mandatory on the part of the Government of India to protect and conserve all the wetlands in the territory of India.
2. The Wetlands (Conservation and Management) Rules, 2010 were framed by the Government of India based on the recommendation of Ramsar Convention.
3. The Wetlands (Conservation and Management) Rules, 2010 also encompass the drainage area or catchment regions of the wetlands as determined by the authority.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only  
(b) 2 and 3 only  
(c) 3 only  
(d) 1, 2 and 3

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2098981>

#### **4. The Guneri inland mangrove**

**Q. The Guneri inland mangrove is recently declared as the first Biodiversity Heritage Site of which among the following states?**

- (a) Odisha  
(b) Gujarat  
(c) Tamil Nadu  
(d) Uttar Pradesh

**Answer: (b) Gujarat**

**Explanation:**

**In NEWS:** Gujarat village's inland mangrove to be state's first Biodiversity Heritage Site

**The Guneri inland mangrove:**

- Gujarat declared the inland mangrove in Guneri village, Kutch, as its first Biodiversity Heritage Site. **Hence option (b) is correct.**
- It is 45 km from the Arabian Sea and 4 km from Kori Creek, with no seawater inflow.
- The site is a rare inland mangrove forest, one of only eight globally.
- It may have originated after the Miocene marine transgression or along the lost Saraswati River.
- Limestone deposits in the region help sustain groundwater flow for the mangroves.
- The site was designated under The Biodiversity Act, 2002, after consultation with local bodies.
- The Guneri inland mangrove area houses 20 migratory and 25 resident migratory avifaunal species.

**PYQ REFERENCE:**

**Q. Which one of the following regions of India has a combination of mangrove forest, evergreen forest and deciduous forest?**

- (a) North Coastal Andhra Pradesh
- (b) South-West Bengal
- (c) Southern Saurashtra
- (d) Andaman and Nicobar Islands

**Source:**

<https://indianexpress.com/article/cities/ahmedabad/gujarat-guneri-kutch-mangrove-biodiversity-heritage-site-9807918/>

## 5. Ocean Coordination Mechanism

**Q. Consider the following statements with respect to the Ocean Coordination Mechanism:**

1. It is an initiative of the United Nations Environment Programme.
2. It aims at sustainable management of marine resources in the Wider Caribbean region.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (b) 2 only**

**Explanation:**

**In NEWS:** Ocean Coordination Mechanism: Latest initiative to conserve Caribbean and North Brazil shelf

**The Ocean Coordination Mechanism (OCM):**

- The Ocean Coordination Mechanism (OCM) is a collaborative framework established to enhance the sustainable management of marine resources in the Wider Caribbean region, encompassing the Caribbean Sea and the North Brazil Shelf Large Marine Ecosystem. **Hence statement 2 is correct.**
- These areas are rich in biodiversity, their coral reefs and fisheries support local economies, contributing about \$610 million each year.
- The North Brazil Shelf, classified as a Large Marine Ecosystem, is home to over 500 fish species and acts as a natural barrier against storms.
- It is launched by the Intergovernmental Oceanographic Commission (IOC) of UNESCO. **Hence statement 1 is incorrect.**
- The OCM aims to address critical marine challenges through coordinated efforts among regional stakeholders.
- OCM also promotes blue carbon projects, which use coastal ecosystems for carbon storage, benefiting both the environment and local communities.
- Financial sustainability is another vital component of the OCM.
- It has secured an initial \$15 million investment from the Global Environment Facility through the UNDP/GEF PROCARIBE+ Project.
- The initiative has also benefited from a substantial co-financing total of \$126.02 million facilitated by the GEF.
- The OCM is designed to facilitate enhanced collaboration among countries, IGOs, and other ocean stakeholders, promoting well-coordinated efforts to restore and preserve the region's valuable marine ecosystems.

**Objectives of the OCM:**

- Implement strategies to ensure the long-term health and productivity of marine ecosystems in the region.
- Foster cooperation among Caribbean nations and adjacent regions to address shared marine challenges effectively.
- Develop integrated policies and frameworks to manage marine resources cohesively.

**PYQ REFERENCE:**

**Q. Consider the following statements:**

1. Climate and Clean Air Coalition (CCAC) to Reduce Short Lived Climate Pollutants is a unique initiative of G20 group of countries.
2. The CCAC focuses on methane, black carbon and hydrofluorocarbons.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Source:

<https://www.downtoearth.org.in/wildlife-biodiversity/ocean-coordination-mechanism-latest-initiative-to-protect-caribbean-and-north-brazil-shelf>

### 6. Potassium Derived from Molasses (PDM)

**Q. With respect to Potassium Derived from Molasses, Consider the following statements:**

1. It is natural and sustainable.
2. It has a minimum of 60% potash content.
3. It can be used by farmers as an alternative to Muriate of Potash.

**How many of the above statements are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Answer: (b) Only two**

**Explanation:**

**In NEWS:** Potassium Derived from Molasses (PDM), a by-product of sugar industry has minimum 14.5% potash and can be used by farmers

**Potassium Derived from Molasses:**

- Potassium Derived from Molasses (PDM) is a by-product of the sugar industry.
- PDM has a minimum 14.5% potash and can be used by farmers in the field as an alternative to MOP (Muriate of Potash with 60% potash content). **Hence statement 2 is incorrect and 3 is correct.**
- Thus, PDM can reduce the dependence on imported potash.
- PDM was notified under Fertilizer Control Order (1985) in 2009, and in order to incentivize the use of PDM, it was inducted under Nutrient Based Subsidy scheme in Rabi, 2022.
- This fertilizer plays a major role in both the vegetative growth phase of plants as well as in the production phase. These nutrients are suitable for all types of crops.
- It improves the shine, flavor, and proper size of the crop.



- It increases the resistance in plants against diseases and increases the number of flowers and also helps in increasing plant growth like root length and number of roots and in timely maturity.

**Uses of Potassium from Molasses:**

- Agriculture & Fertilizers
  - Used as an organic potassium fertilizer for crops.
  - Improves soil fertility and enhances plant growth.
  - Commonly found in liquid fertilizers and foliar sprays.
- Animal Feed Supplements
  - Used as a potassium-rich feed additive for livestock.
  - Improves milk production in dairy cows and growth in poultry.
- Food & Beverage Industry
  - Natural flavor enhancer in baking and brewing.
  - Used in the production of fermented foods like soy sauce.
- Industrial Applications
  - Used in potash production for making potassium-based chemicals.
  - Plays a role in fermentation processes in ethanol production.

**Benefits of Using Potassium from Molasses:**

- Sustainable & Natural – A renewable byproduct with minimal waste. **Hence statement 1 is correct.**
- Enhances Soil Health – Provides essential nutrients without synthetic additives.
- Cost-Effective – More affordable than chemical fertilizers and supplements.
- Multi-Purpose – Suitable for agriculture, food processing, and industry.

**PYQ REFERENCE:****Q. What are the advantages of fertigation in agriculture?**

1. Controlling the alkalinity of irrigation water is possible.
2. Efficient application of Rock Phosphate and all other phosphatic fertilizers is possible.
3. Increased availability of nutrients to plants is possible.
4. Reduction in the leaching of chemical nutrients is possible.

**Select the correct answer using the code given below:**

- (a) 1, 2 and 3 only  
(b) 1, 2 and 4 only  
(c) 1, 3 and 4 only  
(d) 1, 2, 3 and 4

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2099748>

### 7. International Big Cat Alliance (IBCA)

**Q. Consider the following statements with respect to the International Big Cat Alliance (IBCA):**

1. The IBCA, an Inter-governmental International Organization was established by the Government of India.
2. It was launched with the aim of conservation of the seven big cats.
3. The non-range countries, where historically these species are not found, cannot be a part of this alliance.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

**Answer: (a) 1 and 2 only**

**Explanation:**

**In NEWS:** International Big Cat Alliance (IBCA) officially comes into force as a full-fledged Treaty based Inter-governmental International Organization

**Establishment of International Big Cat Alliance (IBCA):**

- The IBCA was launched by the Prime Minister Shri Narendra Modi on 9th April, 2023, during the event 'Commemorating 50 years of Project Tiger'.
- The Union Cabinet, in its meeting held on 29th February 2024, approved the establishment of IBCA with headquarters in India.
- The IBCA was established by the Government of India, through the nodal organisation viz., National Tiger Conservation Authority (NTCA), Ministry of Environment, Forest & Climate Change (MoEFCC). **Hence statement 1 is correct.**
- From 23rd January, 2025, the IBCA and its Secretariat have become a full-fledged treaty based inter-governmental international organization and international legal entity.
- The alliance comprises 97 countries, including many from Asia and Africa.

**Objectives of International Big Cat Alliance (IBCA):**

- It was launched with the aim of conservation of seven big cats - Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar and Puma. **Hence statement 2 is correct.**
- Member nations collaborate by exchanging experiences, providing timely assistance to neighbors, and emphasizing capacity building to strengthen conservation efforts.
- The non-range countries where historically these species are not found are also interested in supporting big cat conservation. **Hence statement 3 is incorrect.**

- By safeguarding big cats and their habitats, the IBCA contributes to natural climate adaptation, water and food security, and the well-being of communities reliant on these ecosystems.
- The alliance also aims to mitigate challenges arising from climate change and promote the sustainable use of natural resources.
- The primary objective of IBCA is to facilitate collaboration and synergy among stakeholders, consolidating successful conservation practices and expertise to achieve a common goal of conservation of big cats at global level.
- This unified approach, bolstered by financial support, aims to bolster the conservation agenda, halt the decline in big cat populations, and reverse current trends.

**Functioning of IBCA:**

- Collaborative platform for increased dissemination of gold standard big cat conservation practices
- Provides access to a central common repository of technical know-how and corpus of funds
- Strengthens the existing species-specific intergovernmental platforms
- Networks and transnational initiatives on conservation and protection
- Assists securing our ecological future and mitigate adverse effects of climate change

**PYQ REFERENCE:****Q. Consider the following statements:**

1. Animal Welfare Board of India was established under the Environment (Protection) Act, 1986.
2. The National Tiger Conservation Authority is a statutory body.
3. The National Ganga River Basin Authority is chaired by the Prime Minister.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 and 3 only  
(c) 2 only  
(d) 1, 2 and 3

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2099279>

## **8. ELS Cotton**

**Q. Consider the following statements with respect to the cultivation of Extra Long Staple Cotton(ELS) varieties in India:**

1. The yield of Extra Long Staple Cotton is relatively higher than the medium staple variety cotton.
2. Minimum Support Price (MSP) is not provided for Extra Long Staple Cotton varieties.

3. India produces 95% of its ELS cotton demand.

**How many of the above statements are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Answer: (d) None**

**Explanation:**

**In NEWS:** A five-year mission to promote extra-long staple (ELS) cotton varieties announced in the Union Budget.

**Extra-long Staple cotton:**

- Extra-Long Staple (ELS) Cotton is a premium variety of cotton known for its exceptionally long and fine fibers, making it ideal for producing high-quality textiles.
- ELS varieties boast fibre lengths of 30 mm and above.
- It produces silky, smooth, and luxurious fabrics.
- It improves dye retention and color vibrancy.
- Most ELS cotton comes from the species *Gossypium barbadense*, commonly known as Egyptian or Pima cotton.
- Having originated in South America, ELS cotton today is mainly grown in China, Egypt, Australia, and Peru.
- In India, some ELS cotton is grown along rain fed parts of Atpadi taluka in Maharashtra's Sangli district, and around Coimbatore in Tamil Nadu.
- India imports a significant amount of ELS cotton due to limited domestic production.

**Reason for farmers not adopting ELS Cotton:**

- High Import Dependence – Imports mainly from Egypt, USA, and Australia.
- Low Domestic Production – India produces only 5% of its ELS cotton demand. **Hence statement 3 is incorrect.**
- For the 2024-25 season, the Minimum Support Price (MSP) of medium staple cotton was Rs 7,121 (per quintal) while that of long staple cotton was Rs 7,521. **Hence statement 2 is incorrect.**
- Nonetheless, cotton farmers in India have thus far been reluctant to adopt ELS cotton.
- This is mainly due to lower than average per acre yields.
- While the medium staple variety yields between 10 and 12 quintals per acre, ELS cotton has a yield of only 7-8 quintals. **Hence statement 1 is incorrect.**
- Additionally, farmers growing ELS cotton are often unable to market their premium produce at premium prices.
- The market linkages necessary are also not available easily.

**Mission to promote extra-long staple (ELS) cotton:**

- Productivity Enhancement: Implementing advanced agricultural practices and technologies to increase cotton yield per hectare.
- Sustainability: Encouraging eco-friendly farming methods to ensure long-term soil health and environmental conservation.
- Promotion of ELS Cotton: Focusing on the cultivation of ELS cotton, known for its superior fiber quality, to meet domestic demand and reduce import dependence.
- Farmer Support: Providing farmers with access to the latest scientific research and technological advancements to improve crop outcomes.
- Economic Growth: Aligning with the government's integrated 5F vision—Farm to Fibre, Fibre to Factory, Factory to Fashion, Fashion to Foreign—to boost the textile sector and increase farmers' incomes.
- Import Reduction: Decreasing reliance on imported ELS cotton by bolstering domestic production.

**PYQ REFERENCE:**

**Q. "The crop is subtropical in nature. A hard frost is injurious to it. It requires at least 210 frost-free days and 50 to 100 centimeters of rainfall for its growth. A light well-drained soil capable of retaining moisture is ideally suited for the cultivation of the crop." Which one of the following is that crop?**

- (a) Cotton
- (b) Jute
- (c) Sugarcane
- (d) Tea

**Source:**

<https://indianexpress.com/article/explained/what-is-els-cotton-why-doesnt-india-grow-more-of-this-premium-variety-9816056/>

## **9. Himalayan gold**

**Q. The term 'Himalayan gold', sometimes found in news, refers to**

- (a) Crude oil
- (b) Coal
- (c) Rare earth elements
- (d) Caterpillar fungus

**Answer: (d) Caterpillar fungus**

**Explanation:**

**In NEWS:** In the remote Qinghai-Tibetan Plateau, a rare fungus grows inside dead caterpillars. In traditional Chinese medicine, this parasitic fungus is prized for its purported medicinal effects.

**Caterpillar fungus or “Himalayan gold”:**

- Ophiocordyceps sinensis – colloquially, caterpillar fungus or “Himalayan gold” – it can fetch astronomical prices on the herbal medicine market: up to US \$ 63,000 per pound. **Hence option (d) is correct.**
- It is mainly found in the meadows above 3,500 metres (11,500 ft) on the Tibetan Plateau in Tibet and the Himalayan regions of Bhutan, India, and Nepal.
- It parasitizes larvae of ghost moths and produces a fruiting body which is valued in traditional Chinese medicine as an aphrodisiac.
- Caterpillar fungus contains the compound cordycepin, an adenosine derivative.
- However, naturally harvested fruiting bodies often contain high amounts of arsenic and other heavy metals, making them potentially toxic. As a result, their sale has been strictly regulated by China's State Administration for Market Regulation since 2016.
- O. sinensis is classified as a medicinal mushroom, and its use has a long history in traditional Chinese medicine as well as traditional Tibetan medicine.
- The hand-collected, intact fungus-caterpillar body is valued by herbalists as medicine, and because of its cost, its use is also a status symbol.
- The fruiting bodies of the fungus are not yet cultivated commercially, but the mycelium form can be cultivated in vitro.
- Overharvesting and overexploitation have led to the classification of O. sinensis as an endangered species in China.
- Additional research needs to be carried out in order to understand its morphology and growth habits for conservation and optimum utilization.

**PYQ REFERENCE:**

**Q. The term 'West Texas Intermediate', sometimes found in news, refers to a grade of**

- (a) Crude oil
- (b) Bullion
- (c) Rare earth elements
- (d) Uranium

**Source:**

<https://www.thehindu.com/sci-tech/science/lightning-strikes-make-collecting-a-fungus-for-traditional-chinese-medicine-a-deadly-pursuit/article69183873.ece>  
<https://upgovernor.gov.in/en/page/constitutional-role-of-the-governor>

## 10. TrailGuard and Nightjar

**Q. The term 'TrailGuard and Nightjar' is talked about in the context of**

- (a) Indigenous Satellite Navigation System
- (b) Railway safety at night
- (c) Cyber security threats
- (d) Enhancing wildlife conservation

**Answer: (d) Enhancing wildlife conservation**

**Explanation:**

**In NEWS:** Odisha's Similipal Tiger Reserve has 100-150 AI-enabled cameras that send real-time alerts of poachers and animal movement inside the forest

- TrailGuard AI is an end-to-end, camera-based alert system designed for enhancing wildlife conservation and promoting human-wildlife coexistence in remote areas.  
**Hence option (d) is correct.**
- Real-time Alert Transmissions - TrailGuard AI transmits human and wildlife activities in remote areas in under 30 seconds, enabling real-time interventions.
- The system combines durable outdoor hardware, on-the-edge AI algorithms, and real-time transmission capabilities, and can be deployed along trails or access points in areas of interest.
- TrailGuard AI autonomously detects target objects, and transmits real-time alerts that can trigger rapid-response to entry by poachers or illegal loggers, wildlife entering agricultural or pastoral lands, or status of endangered or exotic invasive species

**Innovative Features Unique to TrailGuard AI:**

- Small form factor - Enhances concealment and prevents vandalism and theft
- Connectivity Anywhere - Allows transmission of alerts over cell, long-range radio, or satellite network
- Embedded AI - Runs inferences on the edge in milliseconds
- Long Battery Life - Up to 48 months per charge in normal use
- Cost Effective - Low cost and minimal maintenance effort, maximizing monitoring efficiency
- Out of the Box - Minimal setup required, just connect battery to deploy and operate

**One Hardware, Multiple Use Cases** - TrailGuard AI can run a selection of different AI detection models for:

- Human-wildlife conflict
- Park intrusion monitoring
- Wildlife monitoring
- Illegal logging



- Mine security
- Border security



**PYQ REFERENCE:**

**Q. The term 'M-STRIPEs' is sometimes seen in the news in the context of**

- (a) Captive breeding of Wild Fauna
- (b) Maintenance of Tiger Reserves

- (c) Indigenous Satellite Navigation System  
(d) Security of National Highways

**Source:**

<https://www.thehindu.com/sci-tech/energy-and-environment/ai-fit-cameras-in-similipal-tiger-reserve-send-poaching-plummeting/article69225924.ece>

## 11. Legal Provisions for Culling in India

**Q. With reference to the Wildlife Protection Act, 1972, Consider the following statements:**

1. The Chief Wildlife Warden of a state can permit the hunting or culling of a wild animal if it becomes a danger to human life or property including crops.
2. The Central Government can declare certain wild animals as vermin, allowing unrestricted killing in specified areas for a limited period.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Answer: (c) Both 1 and 2**

**Explanation:**

**In NEWS:** Govt Approves Nilgai Culling in Haryana

**Legal Provisions for Culling in India:**

**Wildlife Protection Act, 1972 (Section 11 & 62):**

- Section 11: The Chief Wildlife Warden of a state can permit the hunting (culling) of a wild animal if it becomes a danger to human life or property (including crops). **Hence statement 1 is correct.**
- Section 62: The Central Government can declare certain wild animals as vermin, allowing unrestricted killing in specified areas for a limited period. **Hence statement 2 is correct.**

**State Governments' Role:**

- States can recommend certain species (like nilgai, wild boar, or monkeys) to be declared vermin to the Central Government.
- Once approved, the species can be culled without attracting penalties under the WPA.

- States also implement culling under local laws related to agriculture and human-wildlife conflict.

**Proposed Alternatives to Shooting :**

- Translocation: Moving Nilgais to suitable habitats where they do not threaten crops.
- Habitat Restoration: Creating buffer zones with natural food sources.
- Invasive Species Control: Managing encroaching species that push Nilgais into farmlands.
- Fencing & Crop Protection: Encouraging community-led strategies to safeguard crops without harming wildlife.

**Nilgai:**

- The nilgai (*Boselaphus tragocamelus*), also called the blue bull, is the largest Asian antelope and is native to the Indian subcontinent.
- They are found in grasslands, scrub forests, and agricultural fields.
- The species is native to India, Nepal, and Pakistan, but also introduced to Texas, USA.
- Males (bulls) have a bluish-gray coat, giving them the name "blue bull."
- Females (cows) and juveniles are light brown or tawny.
- They are diurnal (active during the day).
- They are herbivorous, feeding on grass, leaves, and crops.
- They live in small groups, with males often being solitary or in bachelor groups.



**Conservation Status:**

- Listed as Least Concern (LC) by the IUCN, but often seen as a pest in India due to crop damage.
- Hunting is prohibited in India, though some states allow culling due to overpopulation.

- Nilgais cause significant destruction to agricultural fields, making them a concern for farmers. So the Government of Haryana has approved culling of Nilgais.
- However, it has sparked protests from environmentalists and local communities, particularly the Bishnoi community, who consider Nilgais sacred.

**PYQ REFERENCE:**

**Q. According to the Wildlife (Protection) Act, 1972, which of the following animals cannot be hunted by any person except under some provisions provided by law?**

1. Gharial
2. Indian wild ass
3. Wild buffalo

**Select the correct answer using the code given below.**

- (a) 1 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

**Source:** <https://www.gktoday.in/haryana-government-permits-nilgai-shooting/>

## **12. Mission Amrit Sarovar**

**Q. Which one of the following is the purpose of 'Mission Amrit Sarovar'?**

- (a) to address the issue of water scarcity in rural areas.  
(b) to eradicate the practice of manual scavenging.  
(c) to release the bonded labourers from their bondage.  
(d) to construct smart cities across the country

**Answer: (a) to address the issue of water scarcity in rural areas.**

**Explanation:**

**In NEWS:** Over 68,000 ponds completed under mission Amrit Sarovar to combat water scarcity

**Mission Amrit Sarovar:**

- Mission Amrit Sarovar, launched in April 2022, has achieved remarkable progress in addressing the country's water scarcity issue by constructing or rejuvenating over 68,000 Amrit Sarovars (ponds) as of January. **Hence option (a) is correct.**
- The mission, aimed at building 75 ponds in each district, with a total target of 50,000 ponds nationwide, has already surpassed its goal.
- These Sarovars have significantly enhanced surface and groundwater availability across various regions, addressing immediate water needs and establishing sustainable water sources.



- The initiative not only highlights the government's commitment to combating water scarcity but also emphasizes long-term environmental sustainability and the well-being of local communities.
- The ponds serve as symbols of climate resilience and ecological balance, contributing to the nation's overall water management strategy.
- Phase II of Mission Amrit Sarovar will continue with a renewed focus on ensuring water availability through community participation (Jan Bhagidaari). This phase aims to further strengthen climate resilience and deliver lasting benefits for future generations by fostering ecological balance.
- The works under Mission Amrit Sarovar are being executed through convergence with various ongoing schemes such as the Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), the 15th Finance Commission Grants, and sub-schemes of Pradhan Mantri Krishi Sichai Yojana, including the Watershed Development Component and Har Khet Ko Pani.
- States are also using their own schemes, and public contributions like crowdfunding and Corporate Social Responsibility (CSR) are encouraged to support the initiative.

**PYQ REFERENCE:**

**Q. 'Project Loon', sometimes seen in the news, is related to**

- (a) waste management technology
- (b) wireless communication technology
- (c) solar power production technology
- (d) water conservation technology

**Source:**

<https://ddnews.gov.in/en/over-68000-ponds-completed-under-mission-amrit-sarovar-to-combat-water-scarcity/>

### 13. Peatlands

**Q. Consider the following statements with respect to Peatlands in the world:**

1. Peatlands store twice as much carbon as all forests in the world.
2. The countries with high concentration of peatlands are located to the south of the equator.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (a) 1 only**

**Explanation:**

**In NEWS:** Peatlands hold more carbon than all the world's forests, yet are dangerously underprotected

**Peatlands:**

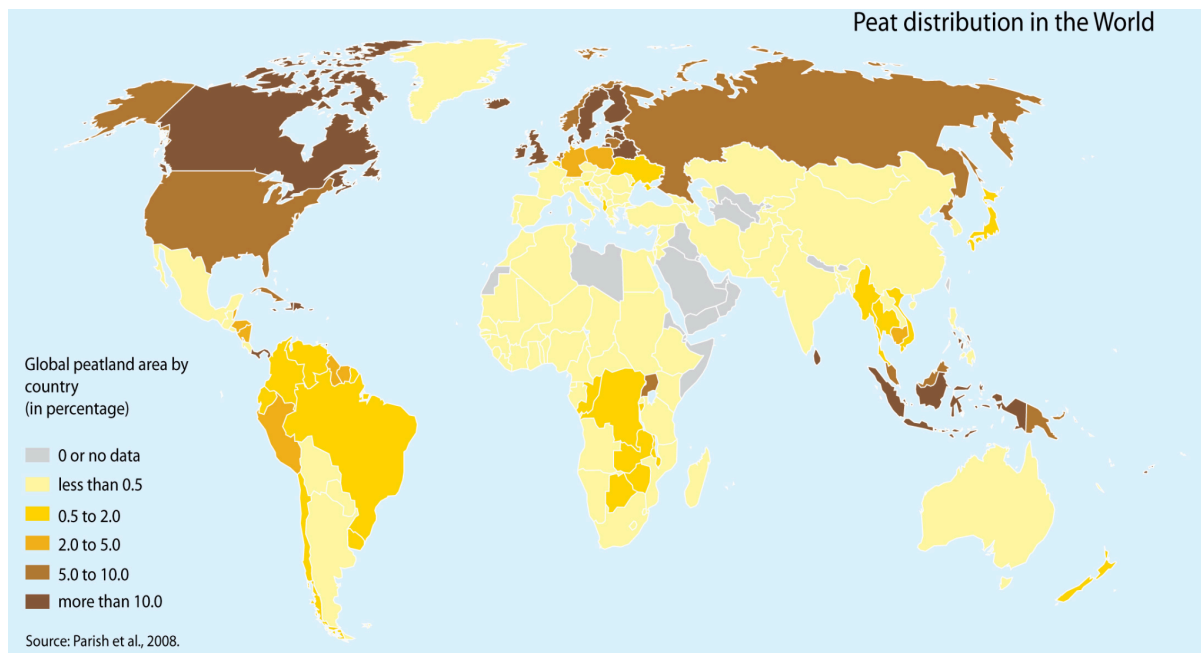
- Peatlands are wetlands that store carbon and support biodiversity.
- They are made of layers of peat, which is organic matter from partially decomposed plants.
- Waterlogged conditions prevent plant material from fully decomposing. This results in a buildup of organic matter, or peat.
- Peatlands are defined as having a layer of peat at least 30 cm thick.
- In cool climates, peatland vegetation is mostly made up of Sphagnum mosses, sedges and shrubs and are the primary builder of peat, whereas in warmer climates graminoids and woody vegetation provide most of the organic matter.
- The majority of the world's peatlands occur in boreal and temperate parts of the Northern Hemisphere, especially, Europe, North America and Russia where they have formed under high precipitation-low temperature climatic regimes. **Hence statement 2 is incorrect.**

**Peatlands and Carbon Sequestration:**

- Peatlands store twice as much carbon as all forests but cover only 3% of Earth's land. **Hence statement 1 is correct.**
- Peatlands are the largest natural terrestrial carbon store. They store more carbon than all other vegetation types in the world combined.
- However, drainage, agriculture, and wildfires are releasing stored CO<sub>2</sub>, worsening climate change.
- Damaged peatlands are a major source of greenhouse gas emissions, responsible for almost 5% of global anthropogenic CO<sub>2</sub> emissions.
- Peatland restoration can reduce emissions significantly.

**Global Peatlands Initiative:**

- The Global Peatlands Initiative is an effort made by leading experts and institutions formed in 2016 by 13 founding members at the UNFCCC COP in Marrakech, Morocco.
- The mission of the Initiative is to protect and conserve peatlands as the world's largest terrestrial organic carbon stock and to prevent it from being emitted into the atmosphere.



**PYQ REFERENCE:**

**Q. In the context of mitigating the impending global warming due to anthropogenic emissions of carbon dioxide, which of the following can be the potential sites for carbon sequestration?**

1. Abandoned and uneconomic coal seams
2. Depleted oil and gas reservoirs
3. Subterranean deep saline formations

**Select the correct answer using the code given below:**

- (a) 1 and 2 only  
(b) 3 only  
(c) 1 and 3 only  
(d) 1, 2 and 3

**Source:**

<https://www.downtoearth.org.in/climate-change/peatlands-hold-more-carbon-than-all-the-worlds-forests-yet-are-dangerously-underprotected>

## **ECONOMY**

### **1. Makhana**

**Q. Consider the following statements:**

1. Makhana or Gorgon plant, is a species of water lily found in southern and eastern Asia.
2. In India, Madhya Pradesh produces 90% of the world's makhana.
3. Makhana is approved under the One District One Product scheme



4. Makhana contains a low amount of sodium and a high amount of potassium, which is good for cardiac health.
5. The ideal conditions for cultivation of makhana includes a temperature range of 20°C to 35°C with relative humidity between 50% and 90% and annual rainfall of 100 to 250 cm.

**Which of the statements given above are correct?**

- (a) 1, 3, 4 and 5
- (b) 2, 4 and 5
- (c) 1, 3 and 4
- (d) 1, 2, 3 and 5

**Answer: (a) 1, 3, 4 and 5**

**Explanation:**

**In NEWS:** Union Finance Minister Nirmala Sitharaman while presenting the Union Budget on Saturday (February 1) said that a “Makhana Board” will be set up in Bihar.

**Makhana (black diamond):**

- Euryale ferox, commonly known as prickly water lily, makhana, or Gorgon plant, is a species of water lily found in southern and eastern Asia, and the only extant member of the genus Euryale. **Hence statement 1 is correct.**
- The edible seeds, called fox nuts or makhana, are dried, and eaten predominantly in Asia.
- The plant is cultivated for its seeds in lowland ponds in India, China, and Japan.
- The Indian state of **Bihar** produces 90% of the world's fox nuts. **Hence statement 2 is incorrect.**
- The Chinese have cultivated the plant for centuries.
- In India, more than 96,000 hectares of Bihar were set aside for cultivation of Euryale in 1990–1991.
- In the northern and western parts of India, the seeds are often roasted or fried, which causes them to pop like popcorn. It has gained popularity as a ‘superfood’ for its rich nutritional properties — makhana is nutrient-dense, low-fat, and an ideal “healthy snack”
- Climatic conditions:
  - Temperature: 20°C to 35°C
  - Relative humidity :50% to 90%
  - Annual rainfall: 100 to 250 cm
  - Soil: Smooth loamy soil. **Hence statement 5 is correct.**
- Makhana is a product approved under the One District One Product scheme, under which subsidies are provided to food processors for branding, marketing, and developing infrastructure. **Hence statement 3 is correct.**

**Health Benefits:**

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- It has high fibre content, low glycemic index and phytochemical constituents.
- It contains an insignificant amount of fat and is rich in protein.
- It prevents high blood pressure and sugar.
- The high calcium content with nominal saturated fat of makhana strengthens bones and muscles.
- Makhana contains a low amount of sodium and a high amount of potassium, which is good for cardiac health. **Hence statement 4 is correct.**



**PYQ REFERENCE:**

**Q. Consider the following statements:**

1. Moringa (drumstick tree) is a leguminous evergreen tree.
2. The Tamarind tree is endemic to South Asia.
3. In India, most of the tamarind is collected as minor forest produce.
4. India exports tamarind and seeds of moringa.
5. Seeds of moringa and tamarind can be used in the production of biofuels.

**Which of the statements given above are correct?**

- a) 1, 2, 4 and 5
- b) 3, 4 and 5
- c) 1, 3 and 4
- d) 1, 2, 3 and 5

**Source:**

<https://indianexpress.com/article/explained/explained-economics/budget-sitharaman-makhana-board-bihar-9812304/>

## 2. Fiscal policies to boost slowing economy in india

**Q. With reference to the Indian economy, which of the following steps are likely to be taken by the government to boost the slowing economy?**

1. Reducing government spending on infrastructure projects
2. Increasing corporate tax rates
3. Providing financial assistance to MSME sectors
4. Leveraging private sector investment.

**Select the correct answer using the code given below.**

- (a) 1 and 2 only  
(b) 2 and 3 only  
(c) 1 and 3 only  
(d) 3 and 4 only

**Answer: (d) 3 and 4 only**

**Explanation:**

**In NEWS:** Tax cut will boost slowing economy: Centre

**Fiscal policies to boost slowing economy in india:**

- To boost a slowing Indian economy, fiscal policies that can be implemented include: increasing government spending on infrastructure development, providing tax cuts for businesses and individuals, targeted subsidies for specific sectors, enhancing rural spending programs, and promoting public-private partnerships; all while maintaining a focus on fiscal responsibility to avoid excessive debt accumulation.

**Key aspects of these policies:**

- Increased Capital Expenditure: Prioritizing large-scale infrastructure projects like roads, railways, and renewable energy to create jobs and stimulate economic activity through the multiplier effect. **Hence statement 1 is incorrect.**
- Tax Cuts: Reducing corporate tax rates to encourage investment and stimulate business growth, potentially with targeted tax breaks for specific sectors like manufacturing. **Hence statement 2 is incorrect.**
- Direct Benefit Transfers (DBT): Utilizing targeted subsidies through digital platforms to reach vulnerable populations, boosting rural demand and consumption.
- MSME Support: Providing financial assistance and streamlined procedures to support small and medium enterprises, crucial for job creation and economic dynamism. **Hence statement 3 is correct.**
- Rural Development Programs: Focusing on rural infrastructure, agricultural development, and skill development initiatives to enhance rural income and consumption.

- Public-Private Partnerships (PPPs): Leveraging private sector investment in infrastructure projects, sharing risks and expertise with the government. **Hence statement 4 is correct.**

**PYQ REFERENCE:**

**Q. There has been a persistent deficit budget year after year. Which action/actions of the following can be taken by the Government to reduce the deficit?**

1. Reducing revenue expenditure
2. Introducing new welfare schemes
3. Rationalizing subsidies
4. Reducing import duty

**Select the correct answer using the code given below.**

- (a) 1 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2, 3 and 4

**Source:**

<https://www.thehindu.com/business/budget/union-budget-2025-tax-cut-meant-to-address-angst-and-to-kickstart-a-slowing-economy-says-finance-secretary/article69173489.ece>

### **3. Textile Sector**

**Q. With respect to the textile sector in India, consider the following statements:**

1. The textile industry is the second-largest employment generating sector in India.
2. Nearly 80 % of its capacity is spread across MSME clusters in the country.
3. Non apparel goods top India's export basket.

**How many of the above statements are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Answer: (b) Only two**

**Explanation:**

**In NEWS:** India is the sixth-largest exporter of textiles and apparels: Economic Survey

**Textile Sector in India:**

- India is the sixth largest exporter of textiles and apparel globally, contributing significantly to the Gross Domestic Product of the country, industrial production and exports.

- The sector is also one of the largest employment generators, with over 45 million people employed directly, including many women and the rural population.
- The textile industry in India, traditionally after agriculture, is the only industry in the country that has generated large-scale employment for both skilled and unskilled labour.
- The textile industry continues to be the second-largest employment generating sector in India. **Hence statement 1 is correct.**
- Nearly 80 % of its capacity is spread across Micro, Small and Medium Enterprises (MSME) clusters in the country. **Hence statement 2 is correct.**
- India exported textile items worth USD 34 billion in 2023, with apparel constituting 42% of the export basket, followed by raw materials/semi-finished materials at 34% and finished non apparel goods at 30%. **Hence statement 3 is incorrect.**
- Europe and the US consumed nearly 66% of India's apparel exports, 58% of finished non-apparel goods and 12% of raw materials/semi-finished materials.
- Other prominent destinations include the UK (8%) and the UAE (7%).
- The Survey points out that textile exports remained resilient throughout the COVID-19 period (2020 to 2022).
- The Survey concludes that Government programs like PM MITRA through creating textile parks with world-class plug-and-play infrastructure would support integrated supply chains, and also attract foreign direct investments into the textile sector.

**Major export items:**

Readymade garments (RMG), Cotton and MMF textiles, Home textiles (bedsheets, towels, carpets) and Technical textiles

**Top Export Destinations (2023-24):**

- USA (27%)
- EU (18%)
- Bangladesh (12%)
- UAE (8%)

**Government Initiatives & Schemes:****1. Production Linked Incentive (PLI) Scheme**

₹10,683 crore incentive for MMF and technical textiles.

**2. National Technical Textiles Mission (NTTM)**

Promotes R&D and innovation in high-value textiles.

**3. PM MITRA (Mega Integrated Textile Region & Apparel) Parks**

Establishing 7 textile parks across India to boost production and exports.

**4. Samarth Scheme**

Provides skill development training for textile workers.

**5. Integrated Processing Development Scheme (IPDS)**

Supports environmentally sustainable processing units.



**PYQ REFERENCE:**

**Q. In India, in the overall Index of Industrial Production, the Indices of Eight Core Industries have a combined weight of 37.90%. Which of the following are among those Eight Core Industries?**

1. Cement
2. Fertilizers
3. Natural Gas
4. Refinery products
5. Textiles

**Select the correct answer using the codes given below**

- (a) 1 and 5 only
- (b) 2, 3 and 4 only
- (c) 1, 2, 3 and 4 only
- (d) 1, 2, 3, 4 and 5

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2098770>

#### **4. Mission 3000**

**Q. The primary objective of 'Mission 3000' of the Indian Railways could be best described as**

- (a) Achieving a targeted installation of Automatic Train Protection (ATP) systems in at least 3000 trains by 2025.
- (b) Bringing into operation, 3000 Vande Bharat trains across the country by 2030.
- (c) Achieving a freight loading target of 3,000 million tonnes (MT) by the fiscal year 2026-27.
- (d) Achieving a passenger turnout of 3000 per day in the central railway stations in the country.

**Answer: Achieving a freight loading target of 3,000 million tonnes (MT) by the fiscal year 2026-27.**

**Explanation:**

**In NEWS:** Mission 3000 still on track: Minister Ashwini Vaishnaw on freight growth

**Mission 3000:**

- Mission 3000 is an ambitious initiative by Indian Railways aiming to significantly enhance its freight capacity.
- The primary objective is to achieve a freight loading target of 3,000 million tonnes (MT) by the fiscal year 2026-27, with a further goal of reaching 3,600 MT by 2030-31.

**Hence option (c) is correct.**

- This strategy is designed to increase the railways' share in India's freight transport to 45% by 2030-31, up from less than 30% in 2022.

**Components of Mission 3000:**

- Infrastructure Development: Prioritizing capacity enhancement projects, such as the Sonnagar-Andal quadrupling, which is expected to significantly boost cargo handling capabilities.
- Network Expansion: Identifying and implementing projects to handle higher freight volumes and regain lost market share.
- Rolling Stock Augmentation: Enhancing the fleet to support increased freight operations.
- Tariff Rationalization: Considering up to a 30% reduction in cargo tariffs for most commodities by 2026-27 to attract more freight business.

**Initiatives to support the Mission:**

- Mission Raftaar to increase the speed of freight trains on busy routes.
- Dedicated Freight Corridors.
- Increasing the number of wagons.

**Challenges Ahead:**

- Declining Freight Share: The railways' share in domestic freight transport has decreased from 85% in 1951 to less than 30% in 2022, highlighting the need for substantial efforts to reverse this trend.
- Infrastructure Bottlenecks: Addressing existing limitations and ensuring timely completion of capacity enhancement projects are crucial.
- Competitive Market: Competing with other modes of transport, particularly roadways, requires strategic initiatives and efficient operations.

**Source:**

[https://www.business-standard.com/india-news/mission-3000-still-on-track-major-freight-volume-rise-ahead-vaishnav-125020301148\\_1.html](https://www.business-standard.com/india-news/mission-3000-still-on-track-major-freight-volume-rise-ahead-vaishnav-125020301148_1.html)

## **5. NDS-OM**

**Q. With reference to the 'Negotiated Dealing System-Order Matching', consider the following statements:**

1. The 'Negotiated Dealing System-Order Matching' is a government securities trading platform of the Reserve Bank of India.
2. Presently the membership of the NDS-OM system is open to entities who maintain Subsidiary General Ledger (SGL) accounts with RBI.

**Which of the statements given above is/are correct?**

(a) 1 only



- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (c) Both 1 and 2**

**Explanation:**

**In NEWS:** The RBI has granted SEBI-registered non-bank brokers direct access to the NDS-OM trading platform for government securities. Additionally, RBI formed a working group to review trading and settlement timings of markets it regulates, with a report expected by April 30, 2025.

**Negotiated Dealing System - Order Matching (NDS-OM):**

- NDS-OM is a screen based electronic anonymous order matching system for secondary market trading in Government securities owned by RBI. **Hence statement 1 is correct.**
- Presently the membership of the system is open to entities like Banks, Primary Dealers, Insurance Companies, Mutual Funds etc. i.e entities who maintain SGL accounts with RBI. **Hence statement 2 is correct.**
- These are Primary Members (PM) of NDS and are permitted by RBI to become members of NDS-OM.
- Gilt Account Holders which have a gilt account with the PMs are permitted to have indirect access to the NDS-OM system i.e they can request their Primary Members to place orders on their behalf on the NDS-OM system.

**NDS-OM Web Module:**

- To further enhance the access of such Gilt Account Holders (hereinafter referred to as GAHs) to NDS-OM, an internet based web application is provided to such clients who can now have direct access to NDS –OM, the system owned by RBI.
- The internet based utility permits GAH to directly trade (buying and selling) in Government Securities (G-Sec) in the secondary market.
- The access is however, subject to controls by respective Primary Member (PM) with whom GAHs have gilt account and current account.

**The benefits to the GAH over the existing NDS-OM system:**

- The GAH will have access to the same order book of NDS-OM as the Primary Members.
- GAH will be in a better position to control their orders (place/modify/cancel/hold/release) and will have access to real time live quotes in the market.
- Since notifications of orders executed as well as various queries are available online to the GAH, they are better placed to manage their positions.

- Web based interface that leverages on the gilt accounts already maintained with the custodian Banks/PDs therefore provides an operationally efficient system to retail participants.

**PYQ REFERENCE:****Q. With reference to India, consider the following statements:**

1. Retail investors through demat account can invest in 'Treasury Bills' and 'Government of India Debt Bonds' in primary market.
2. The 'Negotiated Dealing System-Order Matching' is a government securities trading platform of the Reserve Bank of India.
3. The 'Central Depository Services Ltd.' is jointly promoted by the Reserve Bank of India and the Bombay Stock Exchange.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 1 and 2 only
- (c) 3 only
- (d) 2 and 3 only

**Source:**

<https://economictimes.indiatimes.com/markets/stocks/news/sebi-registered-non-bank-brokers-can-directly-access-nds-om-rbi/articleshow/118010355.cms?from=mdr>  
<https://www.rbi.org.in/commonperson/english/scripts/FAQs.aspx?Id=987>

## 6. Liquidity Coverage Ratio (LCR)

**Q. Consider the following statements:**

**Statement-I:** Liquidity Coverage Ratio (LCR) requires banks and financial institutions to have sufficient capital to handle short-term liquidity disruptions.

**Statement-II:** Liquidity Coverage Ratio (LCR) is the ratio of High-Quality Liquid Assets (HQLA) to the total net cash outflows over the next 30 calendar days

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Answer: (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I**

**Explanation:**

**In NEWS:** RBI defers rollout of LCR norms by a year in big relief to banks

**Liquidity Coverage Ratio (LCR):**

- Liquidity Coverage Ratio (LCR) refers to the proportion of highly liquid assets held by financial institutions to ensure they can meet short-term obligations.
- LCR requires banks to maintain sufficient high-quality liquid assets (HQLAs), comprising mainly government securities, to manage a potential liquidity crunch due to any sudden withdrawals of funds.
- The short term obligation means maintaining the cash outflows for 30 days.
- It ensures banks and financial institutions have sufficient capital to handle short-term liquidity disruptions. **Hence statement 1 is correct.**
- It has originated from the Basel III agreement.
- $LCR = \frac{\text{High-Quality Liquid Assets (HQLA)}}{\text{(Total net cash outflows over the next 30 calendar days)}}$ . **Hence statement 2 is correct.**
- HQLA- These are assets that can be easily and quickly converted into cash with minimal or no loss of value. These include cash, reserves with central banks, and central government bonds. SLR securities are also a part of HQLA.

**PYQ REFERENCE:**

**Q. Consider the following statements:**

1. Capital Adequacy Ratio (CAR) is the amount that banks have to maintain in the form of their own funds to offset any loss that banks incur if the account-holders fail to repay dues.
2. CAR is decided by each individual bank.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Source:**

<https://ddnews.gov.in/en/rbi-defers-rollout-of-lcr-norms-by-a-year-in-big-relief-to-banks/>

## **7. Morand-Ganjal irrigation Project**

**Q. In which one of the following States is the Morand-Ganjal irrigation Project located?**

- (a) Gujarat
- (b) Madhya Pradesh
- (c) Uttar Pradesh
- (d) Chattisgarh

**Answer: (b) Madhya Pradesh**

**Explanation:**

**In NEWS:** NTCA warns Morand-Ganjal irrigation Project in MP will destroy tiger habitat, displace tribals

**The Morand-Ganjal Irrigation Project:**

- The Morand-Ganjal Irrigation Project aims to improve irrigation for 211 villages across Hoshangabad, Betul, Harda, and Khandwa districts.
- Initially proposed in 1972, it received government approval in 2017.
- The project involves constructing dams on the Morand and Ganjal rivers, which will submerge over 2,250 hectares of forest land.
- The National Tiger Conservation Authority (NTCA) has raised concerns regarding the Morand-Ganjal Irrigation Project in Madhya Pradesh. **Hence option (b) is correct.**
- This project threatens vital tiger habitats and disrupts ecological corridors between the Satpura and Melghat Tiger Reserves.
- The NTCA has urged authorities to consider alternative sites to reconcile development needs with conservation efforts.

**PYQ REFERENCE:**

**Q. In which one of the following States is Pakhui Wildlife Sanctuary located?**

- (a) Arunachal Pradesh
- (b) Manipur
- (c) Meghalaya
- (d) Nagaland

**Source:**

<https://www.newindianexpress.com/nation/2025/Feb/10/ntca-warns-morand-ganjal-irrigation-project-in-mp-will-destroy-tiger-habitat-displace-tribals>

**8. UDAN 5.5**

**Q. With reference to 'UDAN 5.5' consider the following statements.**

1. The initiative focuses on utilising seaplanes and helicopters to connect underserved locations.
2. The scheme aims to create routes that link 80 water bodies, including ponds and dams.
3. The government provides viability gap funding (VGF) to selected operators.

**How many of the above statements are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Answer: (c) All three**

**Explanation:**

**In NEWS:**

**UDAN 5.5:**

- The UDAN (Ude Desh ka Aam Naagrik) scheme has reached a new milestone with the launch of its 5.5 version.
- This phase aims to improve regional air connectivity, particularly for remote areas, hilly regions, and islands. The initiative focuses on utilising seaplanes and helicopters to connect underserved locations. The scheme is step towards enhancing last-mile connectivity in India. **Hence statement 1 is correct.**

**Objectives of UDAN 5.5**

- The primary goal of UDAN 5.5 is to encourage air travel in remote and underserved areas.
- The scheme aims to create routes that link 80 water bodies, including ponds and dams. **Hence statement 2 is correct.**
- It seeks to improve accessibility for residents and promote tourism in these regions.
- The initiative also aims to provide economic benefits by facilitating trade and commerce.
- The government provides viability gap funding (VGF) to selected operators. This funding supports routes that are otherwise unprofitable, ensuring that air services remain viable in less accessible areas. **Hence statement 3 is correct.**

**Mode of Operation**

- UDAN 5.5 allows operators to use seaplanes and small aircraft with a capacity of fewer than 20 passengers.
- Additionally, it includes around 400 helipads for helicopter services.
- The scheme encourages participation from various operators, including those with smaller aircraft that can accommodate fewer passengers.

**PYQ REFERENCE:**

**Q. Which one of the following is a purpose of 'UDAY', a scheme of the Government?**

- (a) Providing technical and financial assistance to start-up entre-preneurs in the field of renewable sources of energy
- (b) Providing electricity to every household iv the country by 2018
- (c) Replacing the coal-based power plants with natural gas, nuclear, solar, wind and tidal power plants over a period of time.
- (d) Providing for financial turnaround and revival of power distribution companies

Source:

<https://www.thehindubusinessline.com/economy/logistics/udan-55-launched-to-promote-seaplane-operations/article69202538.ece>

## **9. Sovereign Green Bonds**

**Q. With reference to the 'Sovereign Green Bonds' consider the following statements.**

1. Green bonds are debt instruments issued to raise funds for projects that reduce emissions or enhance climate resilience.
2. In India, these bonds are issued by the Government of India on behalf of the Reserve Bank of India (RBI).
3. A higher yield, known as the green premium or 'Greenium' allows issuers to raise funds at higher costs, making green investments more attractive.

**How many of the above statements are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Answer: (a) Only one**

**Explanation:**

**In NEWS:** Demand for Sovereign Green Bonds weak in India

**Sovereign Green Bonds:**

- Green bonds are debt instruments issued by governments, corporations, and multilateral banks to raise funds for projects that reduce emissions or enhance climate resilience. **Hence statement 1 is correct.**
- In India, these bonds are issued by the Reserve Bank of India (RBI) on behalf of the Government of India. **Hence statement 2 is incorrect.**
- Issuers typically offer green bonds at lower yields than conventional bonds, assuring investors that the proceeds will be used exclusively for green investments.
- The difference in yield, known as the green premium, or Greenium determines the cost advantage of green bonds.
- A higher Greenium allows issuers to raise funds at lower costs, making green investments more attractive. **Hence statement 3 is incorrect.**

**The funds raised from SGBs can only be used for green projects, such as:**

- Renewable energy (solar, wind, hydro)
- Clean transportation (metro, EV infrastructure)
- Sustainable water and waste management

- Energy efficiency and pollution control

**Economic Benefits:**

- Encourages both domestic and foreign investments in renewable energy, clean transportation, and sustainable projects.
- Green bonds often have a lower interest rate (Greenium), reducing the cost of financing for governments.
- Helps in the transition to a low-carbon economy while creating jobs in renewable energy and clean technology sectors.
- Improves India's image in the global sustainable finance market, attracting ESG (Environmental, Social, and Governance) investors.

**Environmental Benefits:**

- Funds solar, wind, and hydro projects, reducing reliance on fossil fuels.
- Promotes energy-efficient buildings, electric vehicles (EVs), and pollution control initiatives.
- Helps in building eco-friendly transportation systems, water conservation projects, and smart cities.
- Funds disaster management, afforestation, and climate adaptation measures to combat environmental risks.

**PYQ REFERENCE:****Q. Which one of the following best describes the term "greenwashing"?**

- (a) Conveying a false impression that a company's products are eco-friendly and environmentally sound
- (b) Non-inclusion of ecological/ environmental costs in the Annual Financial Statements of a country
- (c) Ignoring the disastrous ecological consequences while undertaking infrastructure development
- (d) Making mandatory provisions for environmental costs in a government project/programme

**Source:**

<https://indianexpress.com/article/explained/explained-economics/sovereign-green-bonds-weak-india-9837469/>

## **10. Toll Tax on National highways**

**Q. Consider the following statements with respect to toll tax on National highways in India:**

1. The current toll taxes are levied based on the base rate of fee per kilometre as prescribed by the National Highways Fee Rules, 2008.



2. Two-Wheelers are exempted from toll tax in National Highways in India.
3. Residents living within a 20 km radius of a toll plaza may be eligible for discounted toll rates upon providing valid proof of residence.

**How many of the above statements are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Answer: (c) All three**

**Explanation:**

**In NEWS:** Public Accounts Committee asks Centre to review toll tax rule for National Highways

**Toll Tax:**

- Toll tax is a fee collected by the government or private operators for using National Highways (NH) to recover the cost of road construction, maintenance, and operation.
- The system is regulated by the National Highways Authority of India (NHAI) under the Ministry of Road Transport and Highways (MoRTH).
- In India, Electronic Toll Collection (ETC) through FASTag is mandatory from 2021 for cashless payments in toll plazas.
- The current toll taxes are levied based on the base rate of fee per kilometre as prescribed by the NH Fee Rules, 2008. **Hence statement 1 is correct.**
- Since vehicular traffic on the road has exponentially increased since 2008, there is a need to review the rules.
- The base rates should be lowered considering there are more vehicles plying on the road and, therefore, the revenue collection is higher.
- Toll rates are revised annually (April 1st), based on inflation and project costs.
- Rates vary for different vehicle types - light vehicles, trucks, commercial carriers.
- Government is working on GPS-based toll collection to eliminate physical toll booths to implement the "Toll-Free India by 2027" Plan.

**Purpose of toll tax:**

- Funds Road Construction & Maintenance – Ensures quality infrastructure.
- Reduces Government Burden – Shifts funding responsibility to users.
- Encourages Private Investment – Supports PPP (Public-Private Partnership) models in highway projects.

**Toll Exemptions & Discounts:**

- Ambulances & Fire Trucks
- Police & Military Vehicles
- Government Vehicles on Duty

- Two-Wheelers & Pedestrians **Hence statement 2 is correct.**
- Locals (within 20 km of a toll plaza) – Discounted passes available **Hence statement 3 is correct.**

**Concerns:**

- Frequent Toll Hikes – Increases transportation costs.
- Long Wait Times at Toll Plazas – Despite FASTag, congestion persists.
- Double Toll Issues – Some roads charge tolls even after full cost recovery.
- Maintenance of the road, identifying high-risk intersections, managing black spots, and providing passenger amenities, including rest stops, and medical help in case of accidents.

**PYQ REFERENCE:**

**Q. With reference to India's decision to levy an equalization tax of 6% on online advertisement services offered by nonresident entities, which of the following statements is/are correct?**

1. It is introduced as a part of the Income Tax Act.
2. Non-resident entities that offer advertisement services in India can claim a tax credit in their home country under the "Double Taxation Avoidance Agreements".

**Select the correct answer using the code given below:**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Source:**

<https://www.thehindu.com/news/national/public-accounts-committee-asks-centre-to-review-toll-tax-rule-for-national-highways/article69212432.ece>

## **11. Circular economy**

**Q. Which one of the following best describes the term “Circular economy”?**

- (a) buying and selling goods and services and buying and selling capital assets  
(b) reduce waste and pollution by keeping materials in use, rather than throwing them away  
(c) market forces of supply and demand determining economic outcomes  
(d) the government controls all economic activity and transactions

**Answer: (b) reduce waste and pollution by keeping materials in use, rather than throwing them away**

**Explanation:**

**In NEWS:** Half Circle to circularity: Review of Draft Notification on EPR for paper waste and sanitary products

- The Union Ministry of Environment, Forest and Climate Change (MoEF&CC) has released a draft notification proposing Extended Producer Responsibility (EPR) for packaging made from paper, glass, and metal, as well as sanitary products.
- A circular economy is an economic system that aims to reduce waste and pollution by keeping materials in use, rather than throwing them away. **Hence option (b) is correct.**

Open economy

- In an open economy, domestic and international entities trade goods and services.
- This includes buying and selling goods and services, and buying and selling capital assets.

Command economy

- The government controls all economic activity and transactions.
- An example is a country with a communist government.

Market economy

- The market forces of supply and demand determine economic outcomes.
- Philosopher Adam Smith coined the term "invisible hand" to describe how market forces work together.

**PYQ REFERENCE:**

**Q. Which one of the following best describes the term "greenwashing"?**

- (a) Conveying a false impression that a company's products are eco-friendly and environmentally sound.
- (b) Non-inclusion of ecological/ environmental costs in the Annual Financial Statements of a country.
- (c) Ignoring the disastrous ecological consequences while undertaking infrastructure development.
- (d) Making mandatory provisions for environmental costs in a government project/programme.

**Source:**

<https://www.downtoearth.org.in/waste/the-last-straw-trumps-back-to-plastic-push-could-reverse-progress-on-single-use-plastics>

## **12. Colour revolutions of countries**

**Q. Consider the following pairs:**

Country	Revolutions
1. Georgia	Rose Revolution
2. Ukraine	Orange Revolution
3. Kyrgyzstan	Tulip Revolution

**How many of the above pairs are correctly matched?**

- (a) Only one pair
- (b) Only two pairs
- (c) All three pairs
- (d) None of the pairs

**Answer: (c) All three pairs**

**Explanation:**

**In NEWS:** Georgia and the resurrection of the colour revolutions

- With the dawn of the 21st century, post-Soviet States experienced a wave of uprisings known as the “colour revolutions”. The movements were associated with specific colours and were largely peaceful protests to replace pro-Moscow governments with a pro-West government in the name of democratic reforms. Though they were non-violent, peaceful and democratic, the Russian elites often perceived them to be western-backed strategies in order to weaken Moscow’s sphere of influence.
- The most notable examples include **Georgia’s Rose Revolution (2003), Ukraine’s Orange Revolution (2004), and Kyrgyzstan’s Tulip Revolution (2005). Hence All three pairs are correct.**
- These protests, on the face of it, appeared peaceful and democratic. Still, these movements received active help from western governments and organisations such as the National Endowment for Democracy (NED), formed during the Cold War to support and promote American social and political values.

**PYQ REFERENCE:**

**Q. Consider the following pairs:**

**S. No. Country Reason for being in the news**

1. Argentina Worst economic crisis
2. Sudan War between the country's regular army and paramilitary forces
3. Turkey Rescinded its membership of NATO

**How many of the pairs given above are correctly matched?**

- (a) Only one pair
- (b) Only two pairs
- (c) All three pairs
- (d) None of the pairs

**Source:**

<https://www.thehindu.com/opinion/op-ed/georgia-and-the-resurrection-of-the-colour-revolutions/article69231002.ece>

## **INTERNATIONAL RELATIONS**

### **1. Point Nemo**

**Q. Which among the following geographical locations is described as the oceanic pole of inaccessibility, located in the South Pacific Ocean?**

- (a) Point Hope
- (b) Point Barrow
- (c) Point Pelee
- (d) Point Nemo

**Answer: (d) Point Nemo**

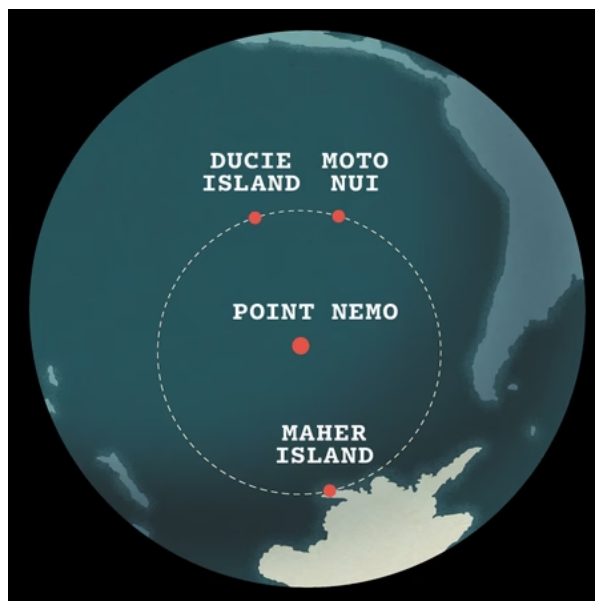
**Explanation:**

**In NEWS:** INSV Tarini crosses Point Nemo, the Oceanic Pole of Inaccessibility in South Pacific

- Point Nemo is famous for its extreme remoteness with the closest human presence often being aboard International Space Station orbiting above; Navy says the officers' duo have collected vital water samples from the point

**Point Nemo:**

- Point Nemo is the oceanic pole of inaccessibility, meaning it is the most remote location in the ocean, farthest from any land. It is located in the South Pacific Ocean.  
**Hence option (d) is correct.**
- This remote oceanic location is located at coordinates 48°52.6'S 123°23.6'W, about 2,688 kilometers from the nearest land—Ducie Island, part of the Pitcairn Islands, to the north; Motu Nui, one of the Easter Islands, to the northeast; and Maher Island, part of Antarctica, to the south.
- Point Nemo is the location in the ocean that is farthest from land.
- The nearest humans to Point Nemo are astronauts on the International Space Station (ISS).
- The ISS orbits between 330 and 410 km above the earth's surface.
- Point Nemo is sometimes called a "spacecraft cemetery" because it's a primary target zone for space debris.
- Point Nemo is relatively lifeless; its location within the South Pacific Gyre blocks nutrients from reaching the area, and being so far from land it gets little nutrient run-off from coastal waters.

**INSV Tarini:**

- INSV Tarini is the second sailboat of the Indian Navy.
- The boat has six sails, including mainsail, genoa, stay, downwind and storm sail. She is capable of sailing in extreme conditions.
- It is equipped with modern GPS, radar, and satellite communication systems.
- Can withstand harsh ocean conditions and sail for months without external support.
- Navika Sagar Parikrama II (lit. 'Sailors' Sea Circumambulation') or Navika Sagar Parikrama 2 is an ongoing circumnavigation of the globe by female officers of the Indian Navy.
- Unlike the previous installment that had a 6 women crew, this time only 2 women will attempt to circumnavigate the globe.
- They are Indian Navy women officers Lt Cdr Roopa A and Lt Cdr Dilna K, who will undertake the journey once again on INSV Tarini.

**PYQ REFERENCE:**

**Q. At one of the places in India, if you stand on the seashore and watch the sea, you will find that the sea water recedes from the shore line a few kilometres and comes back to the shore, twice a day, and you can actually walk on the sea floor when the water recedes. This unique phenomenon is seen at**

- (a) Bhavnagar
- (b) Bheemunipatnam
- (c) Chandipur
- (d) Nagapattinam

**Source:**

<https://www.thehindu.com/news/national/insv-tarini-crosses-point-nemo-the-oceanic-pole-of-inaccessibility-in-south-pacific/article69159751.ece>

## **2. M23 Rebels**

**Q. The regions Bukavu, Goma and South-Kivu recently seen in the news are located in**

- (a) Israel
- (b) Ukraine
- (c) Nigeria
- (d) the Democratic Republic of the Congo

**Answer: (d) the Democratic Republic of the Congo**

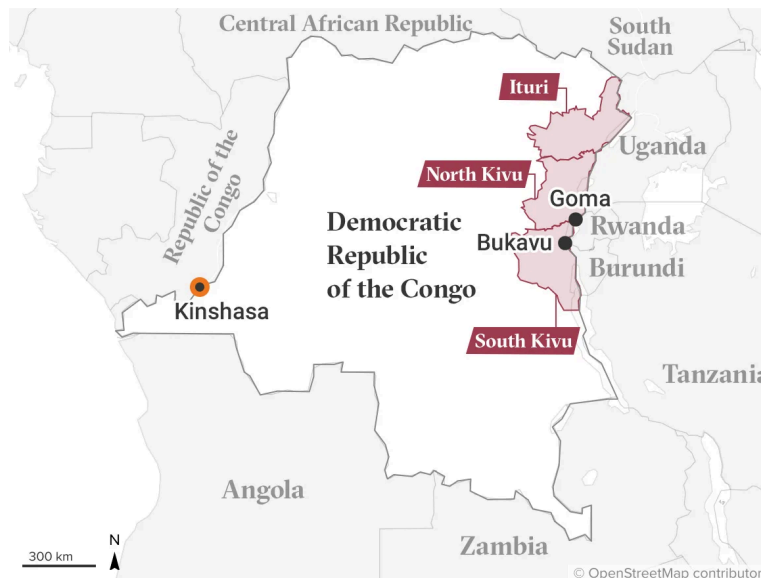
**Explanation:**

**In NEWS:** Rwandan-backed M23 rebels captured Goma

**The M23 rebels:**

- The M23 rebels, also known as the March 23 Movement, are a militia group operating in the eastern regions of the Democratic Republic of Congo (DRC).
- Comprising primarily Tutsi fighters, the group emerged in 2012, citing grievances over the implementation of a peace agreement signed on March 23, 2009, between the Congolese government and the former National Congress for the Defense of the People (CNDP).
- The group has accused the government of Congo of not living up to the peace deal and fully integrating Congolese Tutsis into the army and administration.
- It also vows to defend Tutsi interests, particularly against ethnic Hutu militias such as the Democratic Forces for the Liberation of Rwanda (FDLR).
- The FDLR was founded by Hutus who fled Rwanda after participating in the 1994 genocide of close to one million Tutsis and moderate Hutus.
- M23 rebels in the Democratic Republic of Congo are seeking to advance south towards Bukavu, the capital of South Kivu province, in an attempt to expand their area of control in the country's east after capturing the city of Goma.
- The conflict has led to over 2,000 deaths, with hospitals and morgues in Goma overwhelmed by the number of casualties. There are also concerns about the spread of diseases due to delayed burials and inadequate medical facilities.





The New Humanitarian

**PYQ REFERENCE:**

**Q. Consider the following pairs:**

**Region often mentioned in news**

**Reason for being in news**

- |                             |                                    |
|-----------------------------|------------------------------------|
| 1. North Kivu and Ituri     | War between Armenia and Azerbaijan |
| 2. Nagorno-Karabakh         | Insurgency in Mozambique           |
| 3. Kherson and Zaporizhzhia | Dispute between Israel and Lebanon |

**How many of the above pairs are correctly matched?**

- (a) Only one  
 (b) Only two  
 (c) All three  
 (d) None

**Source:**

<https://indianexpress.com/article/explained/explained-global/congo-m23-rebels-9812287/>

### **3. TROPEX-25**

**Q. Which one of the following statements best describes 'TROPEX-25'?**

- (a) Indian Navy's largest biennial maritime exercise, involving the Indian Army, Air Force, and Coast Guard which aims to enhance operational readiness and interoperability in a multi-threat environment.
- (b) A tri-service amphibious exercise conducted by the Indian Armed Forces held every two years to improve the coordination between the forces.

- (c) A naval exercise that involves the United States, Japan, India, and Australia, held annually to enhance interoperability and maritime security in the Indian Ocean and Indo-Pacific region.
- (d) World's largest international maritime exercise held in the Rim of the Pacific aimed to strengthen relationships between participating nations.

**Answer: (a) Indian Navy's largest biennial maritime exercise, involving the Indian Army, Air Force, and Coast Guard which aims to enhance operational readiness and interoperability in a multi-threat environment.**

**Explanation:**

**In NEWS:** Exercise TROPEX-25 held in the Indian Ocean

**TROPEX:**

- TROPEX is the Indian Navy's largest biennial maritime exercise, involving the Indian Army, Air Force, and Coast Guard.
- Conducted in the Indian Ocean, it aims to validate operational concepts and enhance operational readiness and interoperability in a multi-threat environment. **Hence option (a) is correct.**
- It is a Theatre Level Operational Readiness Exercise(TROPEX).
- The exercise generally commences at the beginning of each year and lasts a month.
- It is generally carried out in three phases: independent workup phase, joint workup phase and tactical phase.
- The exercise involves inter-service coordination, operational demonstrations, complex drills, and live weapon firings.
- Beyond jointness, this year's exercise featured a convergence of India's two naval powerhouses—the Eastern and Western Fleets—operating together in a theatre-wide combat scenario.
- TROPEX-25 included an array of dynamic naval operations involving Indian Navy ships, submarines, and aircraft. The top brass embarked aboard premier vessels like the aircraft carrier INS Vikrant, guided missile destroyer INS Visakhapatnam, stealth frigate INS Satpura, and the amphibious vessel INS Jalashwa.
- Highlights included precision missile, gun, and rocket firings, anti-submarine warfare drills, and amphibious landings by Indian Army troops.
- The exercise also demonstrated the Navy's aerial strength, with MiG-29K fighter jets and helicopters performing bomb busts, rocket firings, and low-level aerobatics, showcasing the Navy's ability to project air power across the maritime domain.
- TROPEX-25 shows India's evolving military doctrine in which joint warfare, fleet integration, and rapid response are at the heart of national defence.

**Key takeaways:**

- **Integrated Fleet Operations A Reality:** The coming together of Eastern & Western Fleets shows that India's Navy can and will work as a single, consolidated maritime

force rather than in isolated silos. This shift is critical in an era where conflicts are no longer restricted to single theatres.

- **Carrier-Based Air Power is Central to Future Warfare:** INS Vikrant's participation in TROPEX-25 was a defining moment. No longer just a symbolic platform, the carrier is now integrated into networked fleet combat, conducting real-world naval strike missions. The Navy asset will serve as a force multiplier in the Indo-Pacific, significantly expanding India's maritime reach.
- **Shaping the Indo-Pacific Battlespace:** Beyond India's military transformation, TROPEX-25 is a signal to the wider Indo-Pacific region especially with China's expanding naval presence in the Indian Ocean—through spy ships, dual-use ports, and increased submarine activity. India is demonstrating that it can counterbalance Chinese moves in the region with a formidable, networked military response.

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2098761>

#### **4. TROPEX - 25**

**Q. Which one of the following statements best reflects the idea behind the "TROPEX - 25" often talked about in media?**

- (a) A hypersonic missile is launched into space to counter the asteroid approaching the Earth and explode it in space
- (b) An operational level exercise in the Indian Ocean Region by all operational Indian Naval units.
- (c) A spacecraft lands on another planet after making several orbital motions.
- (d) A missile is put into a stable orbit around the Earth and deorbits over a target on the Earth.

**Answer: (b) An operational level exercise in the Indian Ocean Region by all operational Indian Naval units.**

**Explanation:**

**In NEWS:** Navy's biennial TROPEX exercise underway in Indian Ocean Region

**THEATRE LEVEL OPERATIONAL READINESS EXERCISE (TROPEX-25):**

- The 2025 edition of Indian Navy's capstone Theatre Level Operational Exercise (TROPEX), is currently underway in the Indian Ocean Region.
- This operational level exercise is conducted biennially with participation by all operational Indian Naval units along with substantial participation of Indian Army, Indian Air Force and Coast Guard assets. **Hence option (b) is correct.**
- TROPEX 25 is aimed at validating Indian Navy's core warfighting skills, and ensuring a synchronised, integrated response to preserve and protect national maritime

security interests in a contested maritime environment against conventional, asymmetric as well as hybrid threats.

- TROPEX 25 is being conducted over a duration of three months from Jan - Mar 25.
- The exercise is being conducted in various phases - both in Harbour and at Sea, integrating various facets of combat operations, cyber and electronic warfare operations, live weapon firings during Joint Work Up Phase and Amphibious Exercise (AMPHEX).
- During the exercise, the combined fleets comprising approximately 65 Indian Naval Ships, 09 Submarines and over 80 Aircrafts of different types, are put through complex maritime operational scenarios to validate and refine the Navy's Concept of Operations including forward deployed sustenance and interoperability with other Services.
- TROPEX 25 is witnessing participation of platforms like indigenous aircraft carrier Vikrant, state-of-the-art Visakhapatnam and Kolkata Class destroyers, Kalvari Class submarines and aircraft fleet comprising MiG 29K, P8I, HALE Sea Guardian and MH-60R helicopters.
- Towards enhancing synergy and jointness amongst the Services, IA, IAF and Indian Coast Guard have also been integrated into the exercise, with participation of Sukhoi-30, Jaguar, C-130, Flight Refueller, AWACS aircraft, an Infantry Brigade with over 600 troops, and more than 10 ICG ships and aircraft.
- Having grown in scope and complexity over the years, TROPEX 25 is a step forward in coordinated planning, precise targeting, combat effectiveness and credible joint operations in a dynamic environment, towards safeguarding India's national maritime interests, Anytime, Anywhere, Anyhow.

**Source:**

<https://www.thehindu.com/news/national/navys-biennial-tropex-exercise-underway-in-indian-ocean-region/article69192813.ece>

<https://pib.gov.in/PressReleasePage.aspx?PRID=2100813>

## 5. Global North and South

**Q. Consider the following countries:**

1. Europe
2. Israel
3. Japan
4. South Korea
5. Australia

**Which of the above countries are grouped as 'Global North countries' as per the UN Trade and Development (UNCTAD)?**

- (a) 1, 2 and 5 only  
(b) 1, 2, 3 and 4 only

- (c) 3, 4 and 5 only  
(d) 1, 2, 3, 4 and 5

**Answer: (d) 1, 2, 3, 4 and 5**

**Explanation:**

**In NEWS:** while addressing the 18th Pravasi Bharatiya Divas convention, the Prime Minister, Narendra Modi, said that India is a bridge between the Global North and South

- Global North and Global South are terms that denote a method of grouping countries based on their defining characteristics with regard to socioeconomics and politics.
- The Global North consists of the world's developed countries, whereas the Global South consists of the world's developing countries and least developed countries.
- According to **UN Trade and Development (UNCTAD)**, the **Global South** broadly comprises **Africa, Latin America and the Caribbean, Asia (excluding Israel, Japan, and South Korea), and Oceania (excluding Australia and New Zealand)**.
  - Most of the Global South's countries are commonly identified as lacking in their standard of living, which includes having lower incomes, high levels of poverty, high population growth rates, inadequate housing, limited educational opportunities, and deficient health systems, among other issues.
  - Additionally, these countries' cities are characterized by their poor infrastructure.
- Opposite to the Global South is the Global North, which the UNCTAD describes as broadly comprising **Northern America and Europe, Israel, Japan, South Korea, Australia, and New Zealand**. **Hence all are correct.**

**PYQ REFERENCE:**

**Q. Consider the following countries:**

1. Italy
2. Japan
3. Nigeria
4. South Korea
5. South Africa

**Which of the above countries are frequently mentioned in the media for their low birth rates, or ageing population or declining population?**

- (a) 1, 2 and 4  
(b) 1, 3 and 5  
(c) 2 and 4 only  
(d) 3 and 5 only

**Source:**

<https://www.thehindu.com/opinion/op-ed/india-as-a-bridge-between-the-global-north-a>

[nd-south/article69203944.ece#:~:text=and%20geopolitical%20interests.-,Global%20South%20countries%20are%20disillusioned%20with%20present%20economic%20paradigms%2C%20burdened,Global%20North%20and%20Global%20South.](#)

## **6. Dunki**

**Q. The term ‘Dunki’ is sometimes seen in the news in the context of**

- (a) Captive breeding of Wild Fauna
- (b) Illegal route of entering a foreign country
- (c) Indigenous Satellite Navigation System
- (d) Security of National Highways

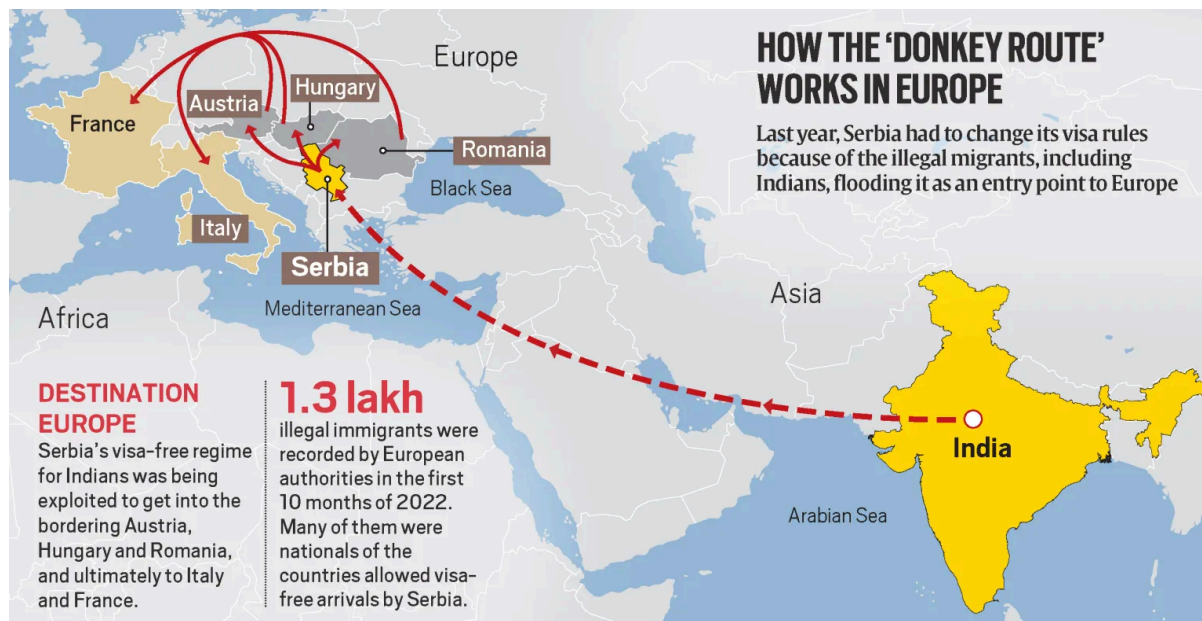
**Answer: (b) Illegal route of entering a foreign country**

**Explanation:**

**In NEWS:** Punjab man taking ‘dunki’ route to US dies in Guatemala

The recently deported illegal immigrants from the US have followed the 'dunki' route to reach the USA.

- “Dunki” or “donkey journey” refers to the long-winding, often dangerous routes that people across the world take to reach the places they want to immigrate to. **Hence option (b) is correct.**
- These difficult journeys are undertaken due to a lack of requisite legal permits or financial resources.
- The American authorities have deported those who have taken this illegal route to reach America.
- Another common route includes going to Turkey on a tourist visa or Kazakhstan on a visa on arrival and taking a “Dunki” route to Russia from there.



Source:

<https://indianexpress.com/article/upsc-current-affairs/upsc-essentials/knowledge-nugget-dunki-routes-upsc-deportation-usa-h1-b-immigration-9823168/>

## 7. BIMSTEC Youth Summit 2025

**Q. Consider the following countries:**

1. Malaysia
2. Singapore
3. Bangladesh
4. Thailand
5. Nepal
6. Bhutan

**Which of the above are among the 'free-trade partners' of ASEAN?**

- (a) 1, 2, 4 and 5
- (b) 3, 4, 5 and 6
- (c) 1, 3, 4 and 5
- (d) 2, 3, 4 and 6

**Answer: (b) 3, 4, 5 and 6**

**Explanation:**

**In NEWS:** The BIMSTEC Youth Summit is being held from 7th to 11th February 2025 in Gandhinagar, Gujarat. Organised by the Department of Youth Affairs, Government of India.



**BIMSTEC**

- The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a regional organisation formed by seven member states India, Bangladesh, Myanmar, Sri Lanka, Thailand, Nepal, and Bhutan. **Hence option (b) is correct.**
- It focuses on addressing common challenges such as climate change, poverty, and sustainable development.

**Objectives of the Summit**

- The primary goal of the BIMSTEC Youth Summit is to facilitate dialogue among youth delegates from member countries.
- The summit is themed Youth as a Bridge for Intra-BIMSTEC Exchange.
- It aims to inspire young leaders to engage in global challenges and contribute to the United Nations' Sustainable Development Goals (SDGs) by 2030.

**PYQ REFERENCE:**

**Q. Consider the following countries:**

1. Australia
2. Canada
3. China
4. India
5. Japan
6. USA

**Which of the above are among the 'free-trade partners' of ASEAN?**

- (a) 1, 2, 4 and 5
- (b) 3, 4, 5 and 6
- (c) 1, 3, 4 and 5
- (d) 2, 3, 4 and 6

**Source:** <https://www.gktoday.in/bimstec-youth-summit-2025/>

**8. USAID funds**

**Q. With reference to the 'USAID funds' consider the following statements.**

1. US Agency for International Development (USAID) is the primary US agency for global humanitarian and development aid.
2. USAID funds healthcare, food aid, disaster relief, and policy advocacy worldwide.
3. India is associated with USAID through the India Emergency Food Aid Act, to aid infrastructure, capacity building, and economic reforms.

**Which of the statements given above is/are correct?**

- (a) 1 and 2 only
- (b) 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Answer: (d) 1, 2 and 3**

**Explanation:**

**In NEWS:** The withdrawal of USAID funds might severely impact the nations supported by them as a number of projects will have to be dropped, in the light of aid being stopped.

- The US President Donald Trump has imposed a 90-day freeze on foreign aid, halting US Agency for International Development (USAID) programs worldwide.

**US Agency for International Development (USAID):**

- USAID is the primary US agency for global humanitarian and development aid.  
**Hence statement 1 is correct.**
- In 2024, USAID was allocated USD 44.2 billion, just 0.4% of the total US federal budget, but accounted for 42% of all humanitarian aid tracked by the United Nations.
- USAID funds healthcare, food aid, disaster relief, and policy advocacy worldwide.  
**Hence statement 2 is correct.**
- Top aid recipients include Ukraine, Ethiopia, Jordan, Somalia, and Afghanistan.
- India's association with USAID began in 1951 with the India Emergency Food Aid Act, evolving over decades from food aid to infrastructure, capacity building, and economic reforms. **Hence statement 3 is correct.**
- The agency has been supporting education, immunization, polio eradication, and HIV (human immunodeficiency virus) /Tuberculosis (TB) prevention.
- In the last decade, India is said to have received around USD 1.5 billion from USAID (about 0.2 % to 0.4 % of USAID's total global funding).

**Source:**

<https://www.thehindu.com/sci-tech/health/how-will-freeze-on-usaid-affect-the-world/article69197131.ece>

## **9. WAVES summit 2025**

**Q. Consider the following statements:**

1. The World Audio Visual Entertainment (WAVES) Summit is a key forum for promoting discussions, collaboration, and innovation in the media and entertainment industry.
2. WAVES 2025 is organised by the Ministry of Information and Broadcasting of India to celebrate and amplify India's creative and media economy.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (c) Both 1 and 2**

**Explanation:**

**In NEWS:** PM Modi chairs WAVES advisory board meeting to position India as global entertainment hub

**World Audio Visual Entertainment (WAVES) Summit:**

- World Audio Visual & Entertainment Summit (WAVES) is a key forum for promoting discussions, collaboration, and innovation in the M&E industry. **Hence statement 1 is correct.**
- WAVES is a global summit that brings together the world of entertainment, creativity, and culture, the Prime Minister's Office said on Friday in an official statement.
- The global summit that brings together the world of entertainment, creativity and culture.
- The members of the Advisory Board are eminent individuals from different walks of life, who not only reiterated their support but also shared valuable inputs on how to further enhance our efforts to make India a global entertainment hub.
- WAVES 2025 is being organised by the Ministry of Information and Broadcasting to celebrate and amplify India's creative and media economy. **Hence statement 2 is correct.**
- As part of the Waves Summit, being held from February 5 to 9, 2025, the Ministry is also launching the Create in India Challenge, Season 1, which will feature several 'challenges' aimed at fostering innovation and creativity.
- The Summit has brought together industry leaders, stakeholders, and innovators.
- The Summit was earlier supposed to be held alongside the International Film Festival of India (IFFI) in Goa in November.

**PYQ REFERENCE:**

**Q. With reference to 'Agenda 21', sometimes seen in the news, consider the following statements:**

1. It is a global action plan for sustainable development.
2. It originated in the World Summit on Sustainable Development held in Johannesburg in 2002.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Source:**

<https://ddnews.gov.in/en/pm-modi-chairs-waves-advisory-board-meeting-to-position-india-as-global-entertainment-hub/>

## **10. Exercise CYCLONE**

**Q. The Joint Special Forces Exercise CYCLONE is conducted between India and**

- (a) Egypt
- (b) Indonesia
- (c) Japan
- (d) South Korea

**Answer: (a) Egypt**

**Explanation:**

**In NEWS:** The 3rd edition of Joint Special Forces Exercise CYCLONE commenced at Mahajan Field Firing Ranges in Rajasthan

**Exercise CYCLONE:**

- Exercise CYCLONE is an annual event conducted alternatively in India and Egypt.  
**Hence option (a) is correct.**
- The Indian contingent comprising 25 personnel will be represented by troops from two Special Forces Battalions.
- Egypt contingent also comprising 25 personnel will be represented by Special Forces Group and Task Force of Egyptian Special Forces.
- Aim of Exercise CYCLONE is to promote military to military relationship between the two countries through enhancement of interoperability, jointness and mutual exchange of special operations tactics.
- The exercise will focus on high degree of physical fitness, joint planning and joint tactical drills.
- Drills/ aspects to be rehearsed during the exercise will include advanced special forces skills and various other tactics, techniques and procedures as per the current operational paradigm.
- The exercise will culminate in a 48-hour long validation exercise to rehearse and validate the tactical drills for counter terrorism operations in desert/ semi-desert terrain.
- The exercise will also include a display of indigenous military equipment and an overview of the defence manufacturing industry for the Egyptian side.
- Exercise CYCLONE will enable the two sides to share their best practices in tactics, techniques and procedures of conducting tactical operations.
- The exercise will also facilitate developing bonhomie and camaraderie between soldiers of both the sides.

**Source:** <https://pib.gov.in/PressReleasePage.aspx?PRID=2101712>

## **11. The Corruption Perceptions Index 2024**

**Q. Consider the following statements.**

1. The Corruption Perceptions Index (CPI) is produced annually by the United Nations Convention against Corruption (UNCAC).
2. The CPI scores countries on a scale from 0 to 100, with 0 indicating the highest level of corruption and 100 representing the highest level of governance.
3. As per the Corruption Perceptions Index 2024, Denmark is the least corrupt country.

**How many of the above statements are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

**Answer: (b) Only two**

**Explanation:**

**In NEWS:** Bangladesh slips 2 notches in Global Corruption Index

- The Corruption Perceptions Index (CPI) is produced annually by the international secretariat of Transparency International (TI), the Berlin-based global coalition against corruption. **Hence statement 1 is incorrect.**
- The index was first globally introduced in 1995, while Bangladesh was first included in it in 2001, according to TIB.
- Bangladesh has slipped two positions in Transparency International's (TI) Corruption Perceptions Index (CPI) for 2024, ranking 151st out of 180 countries.
- The country recorded its lowest score in 13 years, scoring 23 out of 100, a one-point drop from the previous year. In 2023, Bangladesh ranked 149th, reports United News of Bangladesh (UNB).
- The CPI scores countries on a scale from 0 to 100, with 0 indicating the highest level of corruption and 100 representing the highest level of governance. **Hence statement 2 is correct.**
- According to the latest index, Bangladesh has the second-lowest score in South Asia, ahead of only war-torn Afghanistan, which scored 17. With 72 points, Bhutan scored the highest in South Asia, followed by India and the Maldives with 38 points, Nepal with 34, Sri Lanka with 32, and Pakistan with 27 points.
- Denmark retained its position as the least corrupt country with a score of 90, followed by Finland (88) and Singapore (84). **Hence statement 3 is correct.**
- South Sudan ranked as the most corrupt country in 2024, with a score of 8, followed by Somalia (9) and Venezuela (10).

**PYQ REFERENCE:****Q. Consider the following statements:**

1. The United Nations Convention against Corruption (UNCAC) has a 'Protocol against the Smuggling of Migrants by Land, Sea and Air'.
2. The UNCAC is the ever - first legally binding global anti - corruption instrument.
3. A highlight of the United Nations Convention against Transnational Organized Crime (UNTOC) is the inclusion of a specific chapter aimed at returning assets to their rightful owners from whom they had been taken illicitly.
4. The United Nations Office on Drugs and Crime (UNODC) is mandated by its members States to assist in the implementation of both UNCAC and UNTOC.

**Which of the statements given above are correct?**

- (a) 1 and 3 only
- (b) 2, 3 and 4 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4

**Source:**

<https://www.newsonair.gov.in/bangladesh-slips-2-notches-in-global-corruption-index/>

## **12. India-Middle East-Europe Corridor Project**

**Q. With reference to 'India-Middle East-Europe Corridor Project' consider the following statements.**

1. The India-Middle East-Europe Economic Corridor (IMEC) is a planned economic corridor that aims to bolster economic development by fostering connectivity and economic integration between Asia, the Persian Gulf and Europe.
2. The project was launched to bolster transportation and communication links through rail and shipping networks and also to counter China's Belt and Road Initiative.
3. The corridor is a proposed route from India to Europe through the Suez Canal.

**Which of the above statements are correct?**

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3

**Answer: (a) 1 and 2 only**

**Explanation:**

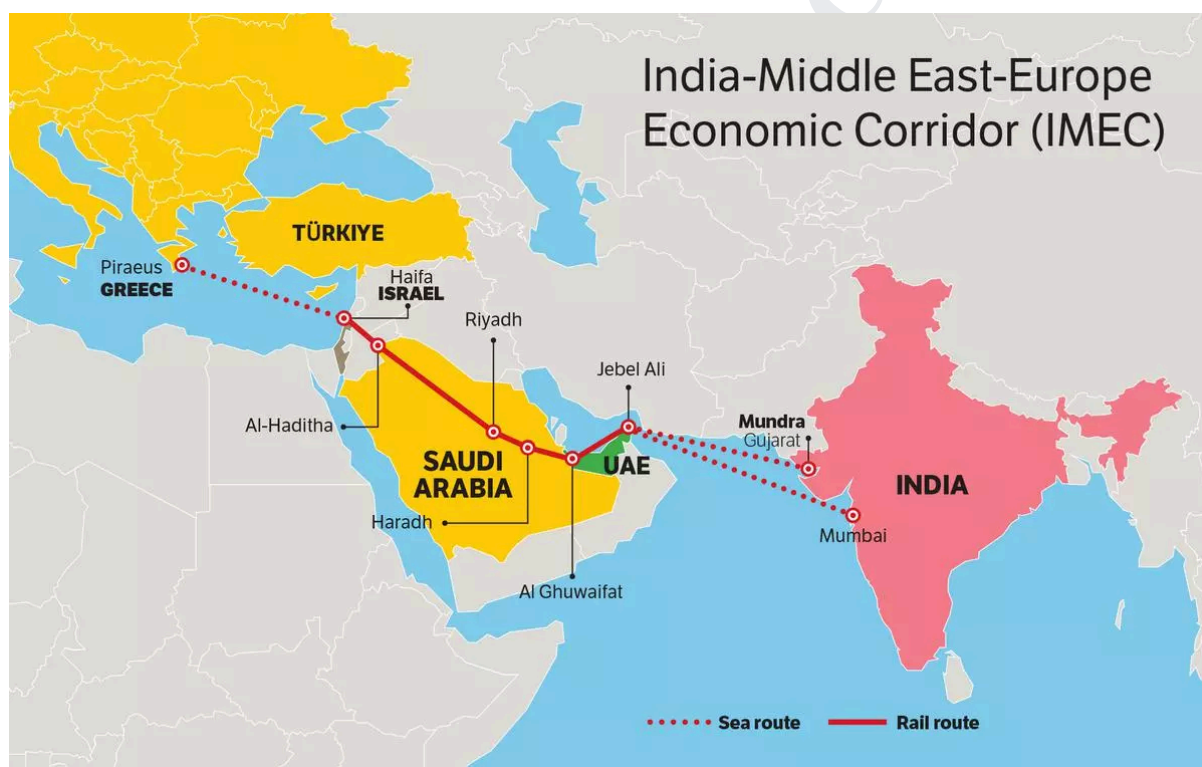
**In NEWS:** India-Middle East-Europe Corridor Project gains traction as PM Modi holds talks with Macron

- The India-Middle East-Europe Economic Corridor (IMEC) is a planned economic corridor that aims to bolster economic development by fostering connectivity and



economic integration between Asia, the Persian Gulf and Europe. **Hence statement 1 is correct.**

- The corridor is a proposed route from India to Europe through the United Arab Emirates, Saudi Arabia, Israel and Greece. **Hence statement 3 is incorrect.**
- On 09 September 2023 the Memorandum of Understanding (MoU) was signed during the 2023 G20 New Delhi summit by the governments of India, United States, United Arab Emirates, Saudi Arabia, France, Germany, Italy and the European Union.
- The project was launched to bolster transportation and communication links between Europe and Asia through rail and shipping networks and is seen as a counter to China's Belt and Road Initiative. **Hence statement 2 is correct.**
- The memorandum of understanding document has only mapped out the potential geography of a corridor and will compete against the current trade route going through the Suez Canal.



**PYQ REFERENCE:**

**Q. Consider the following statements:**

**Statement-I:** Sumed pipeline is a strategic route for Persian Gulf oil and natural gas shipment to Europe

**Statement-II:** Sumed pipeline connects the Red Sea with the Mediterranean Sea.

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-II explains Statement-I



- (b) Both Statement-I and Statement-II are correct, but Statement-II does not explain Statement-I
- (c) Statement-I is correct, but Statement-II is incorrect
- (d) Statement-I is incorrect, but Statement-II is correct

**Source:**

<https://www.thehindu.com/news/national/india-france-agree-to-work-closely-to-implement-india-middle-east-europe-corridor-project/article69212405.ece>

### **13. AI Action Summit**

**Q. Consider the following statements: The AI Action Summit**

1. It was held in Paris and co-chaired by France and the USA.
2. India also become a signatory of the summit by signing the statement on “Inclusive and Sustainable Artificial Intelligence (AI) for People and the Planet”

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Answer: (b) 2 only**

**Explanation:**

**In NEWS:** AI Action Summit: India, China, over 50 other countries sign declaration on ‘inclusive & sustainable AI’

- India, China, the European Commission and over 50 countries have signed the statement on “Inclusive and Sustainable Artificial Intelligence (AI) for People and the Planet” at the AI Action Summit that concluded in Paris. **Hence statement 2 is correct.**

**The Artificial Intelligence (AI) Action Summit:**

- The Artificial Intelligence (AI) Action Summit was held in Paris, France, on February 10-11, 2025, co-chaired by France and India. **Hence statement 1 is incorrect.**
- The summit convened heads of state and government, leaders from international organizations, industry executives, academics, and civil society representatives to discuss the future of AI.

**Key Objectives of the Summit:**

- Promoting AI Accessibility: Aimed to reduce digital divides by making AI technologies more accessible globally.

- Ensuring Ethical AI Development: Focused on the responsible and ethical development of AI systems.
- Fostering International Collaboration: Encouraged cooperation among nations to harness AI for the common good.

**Notable Outcomes:**

- Declaration on Inclusive and Sustainable AI: A declaration emphasizing inclusive and sustainable AI practices was supported by 60 countries, including France, China, and India. Notably, the United States and the United Kingdom chose not to sign this declaration. **Hence statement 2 is correct.**
- Commitment to Reducing Regulatory Barriers: French President Emmanuel Macron announced Europe's intention to reduce regulatory hurdles to foster AI innovation within the region.
- Emphasis on Open-Source AI: Former Google CEO Eric Schmidt highlighted the importance of open-source AI in maintaining competitiveness, particularly against advancements from China.
- India, Kenya, Germany, Chile, Finland, Slovenia, France, Nigeria, Morocco have launched a Public Interest AI Platform and Incubator to decrease division between existing public and private initiatives on Public Interest AI and address digital divides.
- The summit recognized the need for enhanced knowledge-sharing on AI's influence in the job market, leading to the creation of a network of observatories to better anticipate its implications on workplaces, training, education, productivity, skill development, and working conditions.
- The discussions also underscored the necessity of inclusive, multi-stakeholder cooperation on AI governance, integrating aspects of safety, sustainable development, innovation, international law, human rights, gender equality, linguistic diversity, consumer protection, and intellectual property rights.

**PYQ REFERENCE:**

**Q. Consider the following statements: The India-Africa Summit**

1. held in 2015 was the third such Summit
2. was actually initiated by Jawaharlal Nehru in 1951

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Source:**

<https://www.downtoearth.org.in/science-technology/ai-action-summit-india-china-over-50-other-countries-sign-declaration-on-inclusive-sustainable-ai>

## **14. TRUST initiative**

**Q. Consider the following statements:**

**Statement-I:** Recently, the United States of America (USA) and India have launched the 'Transforming Relationship Utilizing Strategic Technology (TRUST)' initiative.

**Statement-II:** The USA and India claim that through this they are aimed at enhancing collaboration in critical and emerging technologies.

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Answer: (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I**

**Explanation:**

**In NEWS:** India and the United States have launched a bilateral initiative for cooperation in the recovery and processing of critical minerals, including lithium and rare earth elements (REEs).

**TRUST initiative:**

The Transforming Relationship Utilizing Strategic Technology (TRUST) initiative is a bilateral agreement between India and the United States, launched in February 2025, aimed at enhancing collaboration in critical and emerging technologies. **Hence option (a) is correct.**

**Key Objectives of the TRUST Initiative:**

- The partnership focuses on the recovery and processing of essential minerals, such as lithium and rare earth elements, to secure supply chains vital for various industries.
- TRUST aims to foster innovation in areas including artificial intelligence (AI), semiconductors, quantum computing, biotechnology, energy, and space technologies.
- The initiative seeks to catalyze collaboration among governments, academic institutions, and the private sector to drive technological advancements and address global challenges.
- The TRUST initiative's effort to create robust supply chains for pharma could focus on active pharmaceutical ingredients (APIs), many of which depend on critical minerals like lithium, magnesium, zinc, and selenium.

**Significance of the TRUST Initiative:**

- By aligning the technological strengths and resources of both nations, TRUST aims to position India and the United States at the forefront of global innovation.
- This collaboration is expected to enhance economic growth, bolster national security, and promote the development of sustainable technologies.
- The TRUST initiative represents a significant step forward in the strategic partnership between India and the United States, reflecting a shared commitment to leveraging technology for mutual benefit and global progress.
- It also positions India and the US to accelerate existing efforts, and counter China's dominance in critical minerals supply chains.

**National programmes of the United States of America (USA) and India:**

- In 2020, the US Energy Act authorised \$675 million for the Critical Minerals and Materials (CMM) programme to diversify and expand supply chains and build a circular economy.
- The US also launched the Battery and Critical Mineral Recycling programme in 2024, with grants worth \$125 million for R&D to increase the reuse and recycling of batteries.
- In 2022, India and the US had announced the initiative on Critical and Emerging Technology (iCET) to collaborate specifically on semiconductors, wireless communication, and artificial intelligence (AI), with a focus on defence- and security-related applications.

**critical minerals are key in strategic sectors:**

- Critical minerals and REEs are essential for strategic industries, including defence, semiconductors, quantum computing, energy, and space.
- Elements such as neodymium, praseodymium, and samarium are crucial for high-performance magnets used in missiles, fighter jets, and radars.
- Lithium, cobalt, and nickel power are used in advanced batteries for energy storage and electric vehicles, while gallium and indium are key in semiconductors and AI hardware.
- Quantum computing relies on ultra-pure silicon and superconducting materials, while REEs like europium and terbium enhance biotech imaging and medical diagnostics.
- In energy, rare earth magnets are vital for wind turbines, and space technology depends on heat-resistant alloys and lightweight materials like scandium.

**PYQ REFERENCE:****Q. Consider the following statements:**

**Statement-I:** Recently, the United States of America (USA) and the European Union (EU) have launched the 'Trade and Technology Council'.

**Statement-II:** The USA and the EU claim that through this they are trying to bring technological progress and physical productivity under their control.

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I  
(b) Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I  
(c) Statement-I is correct but Statement-II is incorrect  
(d) Statement-I is incorrect but Statement-II is correct

**Source:**

<https://indianexpress.com/article/explained/explained-economics/us-trust-initiative-9835961/>

### **15. Democratic Republic of Congo in news**

**Q. Recently, M23 rebels in Democratic Republic of Congo caught international attention for which one of the following reasons?**

- (a) Surge in human rights violation  
(b) Discovery of rich deposits of rare earth elements  
(c) Establishment of Chinese military bases  
(d) Southward expansion of Sahara Desert

**Answer: (a) Surge in human rights violation**

**Explanation:**

**In NEWS:** Hundreds of women raped, burnt alive in Congo jailbreak amid rebel conflict

- Hundreds of women inmates in Munzenze prison of Congo's Goma were reportedly burnt alive after being raped during the chaos after Rwanda-backed rebel groups entered the Congolese city last week, leading to a surge in human rights violation. **Hence option (a) is correct.**
- Rwanda-backed M23 rebels last week captured regional capital Goma in an anarchic and mineral-rich part of Democratic Republic of Congo, where millions were killed and displaced in wars of 1996-1997 and 1998-2003.
- Among human rights violation the conflict has led to, summary executions, bombing of displacement camps are some, along with reports of gang rapes and other sexual violence, according to UN rights office (OHCHR).
- Hundreds of female inmates were attacked in their wing inside Goma's Munzenze prison during a mass jailbreak, according to a senior UN official cited in a report by The Guardian.

**PYQ REFERENCE:**

**Q. Very recently, in which of the following countries have lakhs of people either suffered from severe famine/acute malnutrition or died due to starvation caused by war/ethnic conflicts?**

- (a) Angola and Zambia
- (b) Morocco and Tunisia
- (c) Venezuela and Colombia
- (d) Yemen and South Sudan

**Source:**

<https://www.hindustantimes.com/world-news/congo-hundreds-women-raped-burnt-alive-mass-jailbreak-goma-munzenze-prison-m23-rebel-rwanda-101738752016301.html>

### **16. Early Warnings for All (EW4All) initiative**

**Q. The “Early Warnings for All (EW4All) initiative” with the ambitious goal of ensuring protection from hazardous weather, water and climate events through life-saving early warning systems by the end of 2027 is launched by which among the following organisations?**

- (a) IUCN
- (b) Arctic Council
- (c) United Nations
- (d) World Bank

**Answer: (c) United Nations**

**Explanation:**

**In NEWS:** More than half of national early warning system investments concentrated in just five countries — China, Bangladesh, India, Pakistan and Indonesia

- In 2022, the United Nations launched the Early Warnings for All (EW4All) initiative with the ambitious goal of ensuring protection from hazardous weather, water and climate events through life-saving early warning systems by the end of 2027. **Hence option (c) is correct.**
- This initiative aims to safeguard vulnerable populations worldwide as the frequency and intensity of climate-related disasters continue to rise. In 2023, following the initiative's launch, early warning systems (EWS) received the highest level of funding ever approved for comparable projects. However, this funding for early warning systems remains unevenly distributed.
- According to the Global Observatory for Early Warning System Investments, 54 per cent of national early warning system investments are concentrated in just five countries— China, Bangladesh, India, Pakistan and Indonesia.
- Meanwhile, significant gaps persist in Small Island Developing States (SIDS) and Least Developed Countries (LDCs).

- The Global Observatory, co-designed by the World Meteorological Organization (WMO) and the United Nations Office for Disaster Risk Reduction (UNDRR), was launched in December 2024.
- The initiative aims to track and optimise investments in early warning systems by sharing information about funding from multilateral development banks and funds currently being implemented and in the pipeline in support of early warning systems.
- The observatory seeks to build coherence, alignment, and increased leveraging of EWS funding while providing critical understanding of funding gaps.

**PYQ REFERENCE:**

**Q. BioCarbon Fund Initiative for Sustainable Forest Landscapes' is managed by the**

- (a) Asian Development Bank
- (b) International Monetary Fund
- (c) United Nations Environment Programme
- (d) World Bank

**Source:**

<https://www.downtoearth.org.in/natural-disasters/with-the-uns-ambitious-2027-target-approaching-funding-for-early-warnings-systems-remains-unevenly-distributed>

## **GEOGRAPHY & MAPS**

### **1. Ghaggar River**

**Q. Consider the following statements:**

**Statement-I:**

Recently, a joint committee formed by the National Green Tribunal (NGT) has found that the water in the Ghaggar River is unsafe for bathing.

**Statement-II:**

The river recorded low biochemical oxygen demand (BOD) at both its upstream and downstream.

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct, and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct

**Answer: (c) Statement-I is correct but Statement-II is incorrect**

**Explanation:**



**In NEWS:** A joint committee formed by the National Green Tribunal (NGT) has found that the water in the Ghaggar River is unfit for bathing due to **high biochemical oxygen demand (BOD)** values at both upstream and downstream of the Sukhna Choe. **Hence statement-I is correct but Statement-II is incorrect**

**Biochemical Oxygen Demand:**

- Biochemical Oxygen Demand, which is a measure of how much oxygen is required to break down organic matter in water.
- It's a way to assess the impact of waste on the oxygen levels in a body of water.
- A low BOD is an indicator of good-quality water, while a high BOD indicates polluted water.
- The difference between the Dissolved Oxygen (DO) at the beginning and end of the 5-day period is used to calculate the BOD.

**Sources of BOD:**

- Leaves and woody debris
- Dead plants and animals
- Animal manure
- Effluents from wastewater treatment plants, pulp and paper mills, feedlots, and food-processing plants
- Failing septic systems
- Urban stormwater runoff

**Effects of High BOD:**

- Oxygen Depletion – Aquatic organisms like fish suffocate due to low oxygen levels.
- Eutrophication – Excess nutrients cause algal blooms, which die and further deplete oxygen.
- Loss of Biodiversity – Sensitive aquatic species die, affecting the ecosystem balance.
- Poor Water Quality – High BOD leads to foul smell, turbidity, and unsafe drinking water.

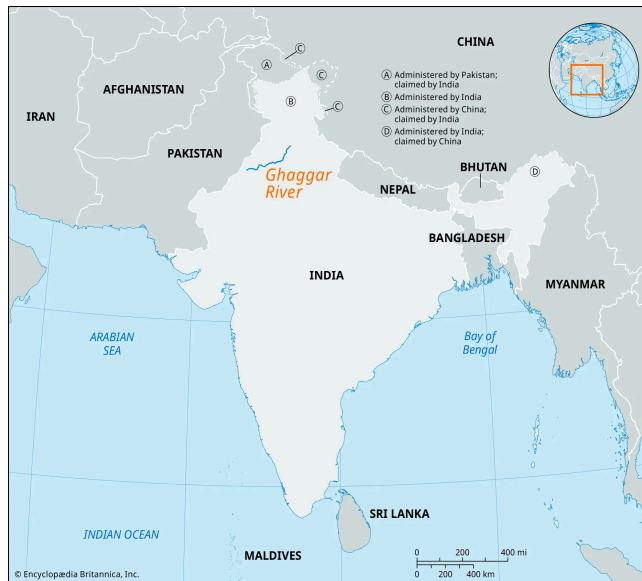
**Solutions to Reduce BOD:**

- Efficient Wastewater Treatment – Sewage Treatment Plants (STPs) and Common Effluent Treatment Plants (CETPs) should be upgraded.
- Industrial Regulations – Strict enforcement of pollution control norms for industries.
- Bioremediation – Use of bacteria and aquatic plants to naturally break down pollutants.
- Reducing Agricultural Runoff – Sustainable farming practices, buffer zones, and controlled fertilizer use.
- Public Awareness & Policy Implementation – Community participation in river cleaning and government intervention in pollution control.

**The Ghaggar River:**

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- The Ghaggar River is an intermittent river that flows through Haryana, Punjab, and Rajasthan in India.
- It is often identified with the mythical Saraswati River in ancient texts.
- It originates in the Shivalik Hills near Kalka (Haryana).
- It flows through Haryana and Punjab, entering Rajasthan.
- It disappears in the Thar Desert, near Hanumangarh and Ganganagar.



**PYQ REFERENCE:**

**Q. Biological Oxygen Demand (BOD) is a standard criterion for**

- (a) Measuring oxygen levels in blood
- (b) Computing- oxygen levels in forest ecosystems
- (c) Pollution assay in aquatic ecosystems
- (d) Assessing oxygen levels in high altitude regions

**Source:**

<https://www.hindustantimes.com/cities/chandigarh-news/chandigarh-ngt-panel-finds-ghaggar-river-unsafe-for-bathing-101738097577517.html>

## **2. Mount Taranaki**

**Q. Mount Taranaki, a dormant stratovolcano which was officially recognised as a legal person recently is situated in**

- (a) Australia
- (b) New Zealand
- (c) Japan
- (d) Fiji

**Answer: (b) New Zealand**

**Explanation:**

**In NEWS:** Recently, New Zealand's Mount Taranaki, also known as Taranaki Maunga, was officially recognised as a legal person.

**Mount Taranaki:**

- Mount Taranaki is a dormant stratovolcano and legal person in the Taranaki region on the west coast of New Zealand's North Island. **Hence option (b) is correct.**
- At 2,518 metres (8,261 ft), it is the second highest mountain in the North Island, after Mount Ruapehu.
- Taranaki is classified as one of New Zealand's most hazardous volcanoes.
- Its last Eruption was around 1854.
- It is one of the most symmetrical volcanic cones in the world.

**Cultural significance:**

- Mount Taranaki has been a revered ancestor to the Māori people for centuries.
- For Māori, Taranaki is not just a geographical feature but a source of cultural and spiritual sustenance.
- The mountain is seen as a guardian and a resting place for ancestors.
- The new law establishes Taranaki Maunga as a living entity.
- This legal framework acknowledges the mountain's rights and responsibilities.
- A governing body will represent Taranaki, consisting of local Māori iwi members and appointees from the Conservation Minister.
- This structure aims to ensure that Māori voices are integral to the mountain's management.
- The recent legal recognition is viewed as a step towards healing and restoring the connection between Māori and their ancestral lands.
- New Zealand has been a pioneer in recognising natural features as legal persons.
- In 2014, the Te Urewera forest was the first to receive such recognition. This was followed by the Whanganui River in 2017.
- These laws reflect a growing acknowledgment of the intrinsic value of nature and the rights of Indigenous peoples.

**PYQ REFERENCE:****Q. Consider the following statements:**

1. The Barren Island volcano is an active volcano located in the Indian territory.
2. Barren Island lies about 140 km east of Great Nicobar.
3. The last time the Barren Island volcano erupted was in 1991 and it has remained inactive since then.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 and 3  
(c) 3 only

(d) 1 and 3

Source: <https://www.gktoday.in/mount-taranaki-becomes-a-legal-person/>

### 3. Glacial retreat

**Q. Consider the following statements:**

**Statement-I:** Glacial retreat occurs when the end of the glacier moves back or retreats uphill over time.

**Statement-II:** This happens when the rate of accumulation of snow and ice at the glacier's head exceeds the rate of melting or calving of ice chunks.

**Which one of the following is correct in respect of the above statements?**

- (a) Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- (b) Both Statement-I and Statement-II are correct, and Statement-II is not the correct explanation for Statement-I
- (c) Statement-I is correct but Statement-II is incorrect
- (d) Statement-I is incorrect but Statement-II is correct"

**Answer: (c) Statement-I is correct but Statement-II is incorrect**

**Explanation:**

**In NEWS:** Arunachal Pradesh lost 110 glaciers in 32 years: Study

**Glacial Retreat:**

- Glacial retreat occurs when the snout (the end of the glacier) moves back or retreats uphill over time. **Hence statement 1 is correct.**
- This happens when the rate of melting or calving (breaking off of ice chunks) exceeds the rate at which snow and ice accumulate at the glacier's head (the upper part). **Hence statement 2 is incorrect.**
- Glacial retreat is one of the most visible effects of global warming.

**Causes of Glacial Retreat:**

Rising Global Temperatures:

- The main driver of glacial retreat is the increase in global temperatures. As temperatures rise, glaciers melt faster than they can accumulate snow and ice.
- Warmer temperatures lead to higher rates of ablation (loss of ice), including melting and sublimation.

Human-induced Climate Change:

- Human activities, particularly greenhouse gas emissions (e.g., carbon dioxide, methane), trap heat in the atmosphere, contributing to warming and accelerating glacial retreat.

#### Changes in Precipitation Patterns:

- Decreased snowfall in some regions due to climate change means glaciers receive less ice accumulation.

#### Local Climate Variations:

- Changes in local weather, like prolonged periods of warm winters or hot summers, can accelerate the retreat of glaciers.

#### Geological and Topographical Factors:

- Factors like the slope of the land, altitude, and proximity to the ocean can affect how fast a glacier melts.
- In some areas, the glacier is more exposed to warm winds or sunlight, which accelerates its retreat.

### **Impacts of Glacial Retreat:**

#### Rising Sea Levels:

- Melting glaciers contribute to rising sea levels, which poses a threat to low-lying coastal areas, islands, and freshwater supplies.
- Around one-third of sea-level rise is attributed to the melting of glaciers (with the rest due to thermal expansion of seawater).

#### Changes in Freshwater Availability:

- Glaciers are a key source of freshwater for millions of people. As glaciers retreat, areas dependent on glacial meltwater, particularly in Himalayas, Andes, and Alps, face threats to water availability.
- Glacial meltwater is particularly important during the dry season when rivers fed by glaciers are crucial.

#### Ecosystem Disruptions:

- The retreat of glaciers may lead to the disruption of ecosystems that depend on the cold and stable environment glaciers provide.
- Animals and plants adapted to cold environments may find it hard to survive, and those dependent on glacial meltwater may face scarcity.

#### Glacial Lakes and Flood Risks:

- As glaciers retreat, they often leave behind glacial lakes. These lakes can be unstable, and there is a risk of glacial lake outburst floods (GLOFs) that can cause downstream flooding and destruction.

### **Global Examples of Glacial Retreat:**

- Himalayas (Asia): The Himalayan glaciers have been retreating rapidly due to rising temperatures, posing significant risks to water supplies for countries like India, Pakistan, and China.
- Swiss Alps (Europe): In the Swiss Alps, the Aletsch Glacier, Europe's largest glacier, has been retreating at an alarming rate, with some studies suggesting that it could disappear within a century.

- Alaska (North America): Glaciers in Alaska have experienced significant retreat over the past century. The Columbia Glacier is one of the most studied glaciers, and it has retreated by several kilometers.
- Patagonia (South America): Glaciers in Patagonia, particularly those in Argentina and Chile, have been retreating rapidly due to climate change, impacting the local environment and tourism.

**PYQ REFERENCE:****Q. Consider the following pairs**

	<b>Glacier</b>	<b>River</b>
1.	Bandarpunch	Yamuna
2.	Bara Shigri	Chenab
3.	Milam	Mandakini
4.	Siachen	Nubra
5.	Zemu	Manas

**Which of the pairs correctly matched?**

- (a) 1, 2 and 4
- (b) 1, 3 and 4
- (c) 2 and 5
- (d) 3 and 5

**Source:**

<https://www.thehindu.com/sci-tech/energy-and-environment/arunachal-pradesh-lost-10-glaciers-in-32-years-study/article69176258.ece>

#### **4. Pineapple Express**

**Q. Consider the following statements.**

1. The Pineapple Express is a cold wind that moves from the Pacific ocean to the Atlantic ocean.
2. The Pineapple Express transports vast amounts of water vapour from the tropics.

**Which of the statements given above is/are correct?**

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2

**Answer: (b) 2 only****Explanation:**

**In NEWS:** Pineapple Express has drenched Northern California in the last few days

**Pineapple Express:**

- The Pineapple Express is a narrow region of atmospheric moisture that builds up in the tropical Pacific.-National Oceanic and Atmospheric Administration (NOAA).
- The Pineapple Express is a type of atmospheric river— a narrow, fast-moving “river in the sky” that transports significant moisture over long distances. **Hence statement 1 is incorrect.**
- The warm air and high humidity it carries from the Pacific lead to heavy rainfall when the system reaches land.
- Pineapple Express gets its name from the warm, moist air drawn into the system, originating near Hawaii, a region known for its pineapple production.
- The NOAA explains that atmospheric rivers are long, narrow bands in the atmosphere that transport vast amounts of water vapour from the tropics. **Hence statement 2 is correct.**
- Their size and strength can differ significantly, but on average, they carry a volume comparable to the flow of the Mississippi River at its mouth. Exceptionally strong atmospheric rivers can transport up to 15 times that amount.
- When atmospheric rivers make landfall, they typically release this moisture as rain or snow, often covering a vast region as they move inland.
- According to NOAA, these rivers are part of the Earth’s ocean water cycle, and are tied closely to both water supply and flood risks. While atmospheric rivers can bring heavy rainfall that may lead to flooding, they also play a beneficial role in increasing snowpack.

**PYQ REFERENCE:****Q. Consider the following statements:**

1. The winds which blow between 30°N and 60°S latitude throughout the year are known as westerlies.
2. The moist air masses that cause winter rains in North-Western region of India are part of westerlies.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Source:**

<https://indianexpress.com/article/upsc-current-affairs/upsc-key-trade-war-anti-conversion-law-and-cotton-production-in-india-9817481/>

## **5. Kolleru Lake**

**Q. Which one of the following is the largest shallow freshwater lake in Asia and also a designated Ramsar wetland located between the Krishna and Godavari river deltas?**

- (a) Pulicat Lake  
(b) Kolleru Lake



- (c) Ashtamudi Lake
- (d) Sasthamkotta Lake

**Answer: (b) Kolleru Lake**

**Explanation:**

**In NEWS:** NGT restrains Andhra Pradesh Government from undertaking six infra projects in Kolleru wetland

**Kolleru Lake:**

- Kolleru Lake is one of the largest freshwater lakes in India and forms the largest shallow freshwater lake in Asia (with 245 km<sup>2</sup> of lake area and 302 km<sup>2</sup> of total Ramsar designated wetland).
- 15 kilometers away from Eluru and 65 km from Rajamahendravaram, the lake is located between the Krishna and Godavari river deltas.
- **Hence option (b) is correct.**
- Kolleru Lake is located in the Eluru district in the state of Andhra Pradesh.
- The lake is fed directly by water from the seasonal Budameru and Tammileru rivulets, and is connected to the Krishna and Godavari irrigation systems by over 67 major and minor irrigation canals.
- This lake is a major tourist attraction. Many birds migrate here in winter, such as Siberian crane, ibis, and painted storks. The lake was an important habitat for an estimated 20 million resident and migratory birds, including the grey or spot-billed pelican (*Pelecanus philippensis*).
- The lake was declared as a wildlife sanctuary in November 1999 under India's Wildlife Protection Act of 1972, and designated a wetland of international importance in November 2002 under the international Ramsar Convention.
- The wildlife sanctuary covers an area of 308 km<sup>2</sup>.
- Egrets, grey herons, painted storks and black-headed ibises gathering in thousands at Kolleru Lake, Andhra Pradesh, India.
- Kolleru Lake under Ramsar Convention (allowing local communities (Here: Vaddi Community) to continue their occupation of culture fish and caught fish) covers 90,100 hectares (222,600 acres) and Kolleru Lake under Wildlife Sanctuary covers 166,000 acres (67,200 ha).

**PYQ REFERENCE:**

**Q. Which one of the following is an artificial lake?**

- (a) Kodaikanal (Tamil Nadu)
- (b) Kolleru (Andhra Pradesh)
- (c) Nainital (Uttarakhand)
- (d) Renuka (Himachal Pradesh)

**Source:**

[https://www.thehindu.com/news/national/andhra-pradesh/ngt-restrains-andhra-pradesh-government-from-undertaking-six-infra-projects-in-kolleru-wetland/article69158314.ece#:~:text=The%20Southern%20Zonal%20Bench%20of,Resources%20Department%20\(WRD\)%20obtained%20the](https://www.thehindu.com/news/national/andhra-pradesh/ngt-restrains-andhra-pradesh-government-from-undertaking-six-infra-projects-in-kolleru-wetland/article69158314.ece#:~:text=The%20Southern%20Zonal%20Bench%20of,Resources%20Department%20(WRD)%20obtained%20the)

## **6. Ross Sea**

**Q. The Ross Sea, recently seen in the news, is part of the**

- (a) Southern Ocean
- (b) North Sea
- (c) Baltic Sea
- (d) Mediterranean Sea

**Answer: (a) Southern Ocean**

**Explanation:**

**In NEWS:** India is participating in the 40-day expedition in association with the National Institute of Water and Atmosphere, New Zealand, as a permanent member of the Commission for the Conservation of Antarctic Marine Living Resources to assess the diversity and distribution of the living resources in the Ross Sea area

**Ross Sea:**

- Ross Sea, southern extension of the Southern Ocean, which, along with the vast Ross Ice Shelf at its head, makes a deep indentation in the circular continental outline of Antarctica. **Hence option (a) is correct.**
- The sea is a generally shallow marine region approximately 370,000 square miles (960,000 square km) in area.
- The Ross Sea is a deep bay of the Southern Ocean in Antarctica, between Victoria Land and Marie Byrd Land and within the Ross Embayment.
- It is the southernmost sea on Earth.
- It is often referred to as the “Last Ocean” due to its pristine ecosystem, rich biodiversity, and minimal human impact.
- The nutrient-rich seawater supports abundant planktonic life which in turn provides food for larger forms, including fish, seals, whales, and seabirds and shorebirds.
- The Ross Sea is strongly influenced by the coastal East-Wind Drift that sets up a vast clockwise gyre accompanied by deepwater upwelling.
- In October 2016, 24 countries and the European Union agreed to establish the world’s largest marine protected area in the Ross Sea.
- Under the agreement, which took force in December 2017, commercial fishing is banned in a zone covering 600,000 square miles (1,600,000 square km) of ocean,

including the Ross Ice Shelf, the Balleny Islands, and the ocean surrounding two seamounts.



#### Biodiversity & Marine Life:

- Emperor & Adélie Penguins – Major breeding grounds.
- Weddell & Leopard Seals – Top predators in the ecosystem.
- Krill & Antarctic Toothfish – Key species in the food chain.
- Orcas & Minke Whales – Frequent visitors for feeding.
- Seabirds – Includes Snow Petrels and South Polar Skuas.

#### Source:

<https://www.thehindu.com/news/national/kerala/indian-researcher-exploring-ross-sea-area-in-antarctica/article69180640.ece>

### 7. Ashtamudi lake

**Q. Which one of the following statements are correct with respect to the 'Ashtamudi lake' ?**

1. It is the second largest lake in India.
2. It is one of the Ramsar wetlands.
3. The lake is fed by the Kallada River, and eventually drains into the Arabian Sea.

**How many of the above statements are correct?**

- (a) Only one
- (b) Only two
- (c) All three
- (d) None

Answer: (b) Only two

Explanation:

In NEWS:

### *Come hell or high water*



**Jumbo crossing:** Tuskers cross the Ashtamudi Lake to participate in a temple festival at Pezhamthuruthu in Kollam, Kerala on Sunday. Elephants are widely used in festivals in the State, often in difficult environments. C. SURESHKUMAR

#### **Ashtamudi Lake:**

- The word Ashtamudi means Eight braids in Malayalam which can be explained by the palm-shaped topography of the lake with multiple branches.
- It is because of its eight 'arms' or channels, that the lake is named Ashtamudi.
- It is the second largest lake in Kerala, which has found its way into the sea through the Neendakara estuary. **Hence statement 1 is incorrect.**
- It is a Ramsar wetland located in Kollam district of Kerala. **Hence statement 2 is correct.**
- Kallada river is the major source of water for Ashtamudi lake. **Hence statement 3 is correct.**
- The historical significance of Ashtamudi lake dates back to the 14th century when the lake surroundings were the important port connecting the ancient city of Quilon to the rest of the world.

- Historical records of the Moroccan explorer Ibn Battuta highlights Quilon city, in the banks of Ashtamudi lake as one of the major trading centers in the ancient period.
- Different species of marshy mangroves was reported in the region, including two endangered species called Syzygium travancoricum and Calamus rotang.

**PYQ REFERENCE:****Q. Consider the following pairs :**

Wetland/Lake	Location
1. Hokera Wetland	- Punjab
2. Renuka Wetland	- Himachal Pradesh
3. Rudrasagar Lake	- Tripura
4. Sasthamkotta Lake	- Tamil Nadu

1. Hokera Wetland - Punjab
2. Renuka Wetland - Himachal Pradesh
3. Rudrasagar Lake - Tripura
4. Sasthamkotta Lake - Tamil Nadu

**How many pairs given above are correctly matched?**

- (a) Only one pair
- (b) Only two pairs
- (c) Only three pairs
- (d) All four pairs

**Source: THE HINDU**

## 8. Quipu

**Q. The term 'Quipu' sometimes mentioned in the news recently is a**

- (a) Electric plane tested by NASA
- (b) Solar-powered two seater aircraft designed by Japan
- (c) Space observatory launched by China
- (d) Largest known structure in the universe

**Answer: (d) Largest known structure in the universe****Explanation:**

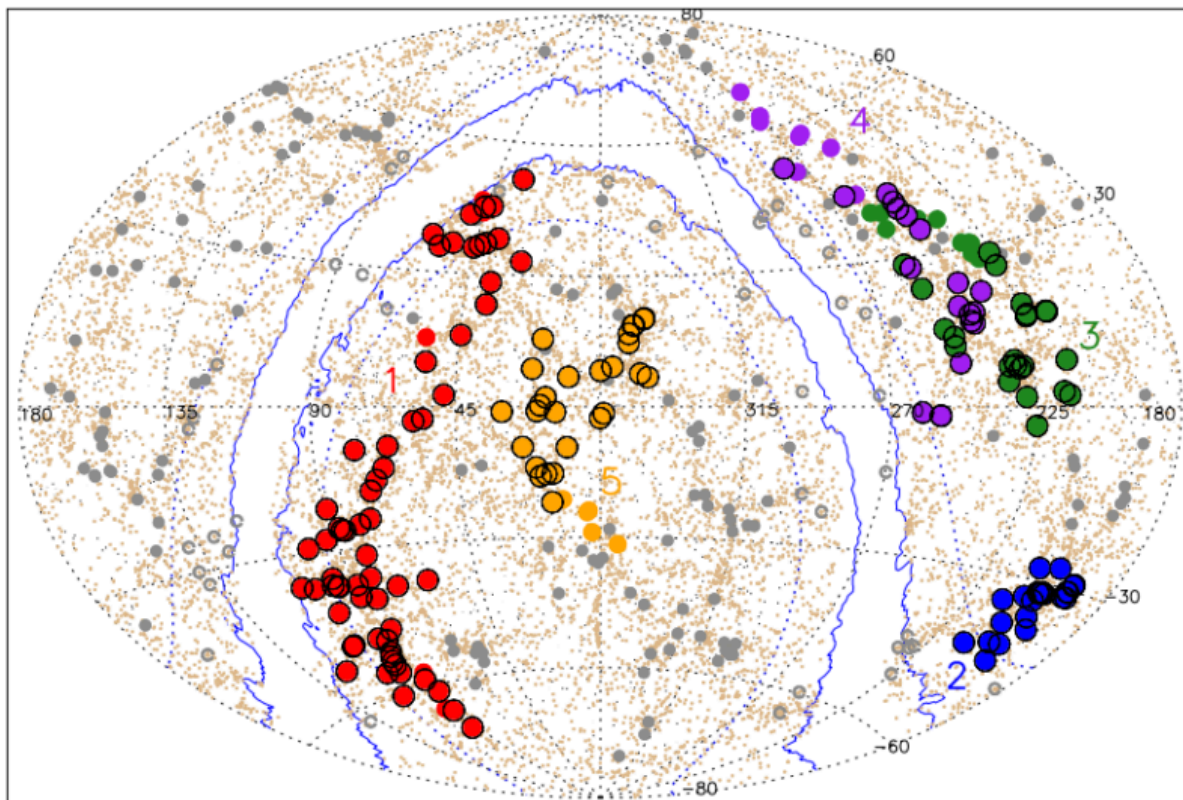
**In NEWS:** A team of astronomers have mapped the nearby universe, from about 425 million to 800 million light-years (which translates to some 130 to 250 megaparsecs), and discovered the largest-known structure residing there.

**Quipu:**

- Quipu is the largest known structure in the universe. **Hence option (d) is correct.**
- They've named this massive collection of galaxies Quipu.
- And they said it stretches some 1.3 billion light-years (400+ megaparsecs) long, containing the mass of some 200 quadrillion stars.
- Quipu is not the only superstructure the team studied. They also found four others that are impressive in their own right.



- The researchers estimate these superstructures contain about 45% of the galaxy clusters, 30% of the galaxies and 25% of the matter in the universe.
- The structures are not only affecting their immediate environment but also distorting and modifying the wavelength of radiation passing through from deeper space.



The colored dots represent different superstructures out to 800 million light-years from Earth. The red dots denote Quipu, the largest known structure in the nearby universe. Yellow is Sculptor-Pegasus superstructure, green is Serpens-Corona Borealis, purple is Hercules and blue is Shapley.

**PYQ REFERENCE:**

**Q. The terms 'WannaCry, Petya and EternalBlue' sometimes mentioned in the news recently are related to**

- Exoplanets
- Cryptocurrency
- Cyber attacks
- Mini satellites

**Source:** <https://earthsky.org/space/quipu-largest-structure-in-the-universe/>

## **ART AND CULTURE**

### **1. Hakim Ajmal Khan**

**Q. He became Jamia Millia Islamia's first chancellor in 1920. He also took much interest in the expansion and development of the indigenous system of medicine, Tibb-i-Yunani. In 1921, he was elected President of the Indian National Congress in place of the previously elected President, C. R. Das, who was arrested well before the session started. He was**

- (a) Sir Syed Ahmad Khan
- (b) Aga Khan
- (c) Hakim Ajmal Khan
- (d) Abdul Ghaffar Khan

**Answer: (c) Hakim Ajmal Khan**

**Explanation:**

**In NEWS:** President of India Inaugurates the International Conference organised by Central Council for Research in Unani Medicine on the occasion of Unani Day today; pays tribute to Hakim Ajmal Khan, a freedom fighter, educationist and eminent Unani Physician.

**Hakim Ajmal Khan:**

- The ancestors of Hakim Ajmal Khan came to India in the Company of Babur. During the reign of Akbar the family took up the medical profession.
- He studied medicine in his own house.
- After Hakim Ajmal Khan established his position in the family profession he was appointed the chief physician to the Nawab of Rampur in 1892 where he remained till 1902.
- During his stay at Rampur, he became interested in the educational movement started by Sir Syed Ahmad Khan and was appointed one of the trustees of the Aligarh College.
- He became the Jamia Millia Islamia's first chancellor in 1920 and remained in office until his death in 1927.
- Inbetween, he resigned from the position during the non - cooperation movement when the authorities of the Aligarh Muslim University refused to participate in the movement.
- In his thirties Hakim Ajmal Khan began to take interest in political issues by writing short notes in his family owned Urdu Weekly, Akmal-ul-Akhbar, which was started sometime between 1865 and 1870 and had survived till the beginning of the 20th Century.



- In 1906, he was included in the Muslim deputation which met the Viceroy at Shimla to present him a memorandum on behalf of the community.
- He also participated in the Dacca meet of the Muslims which had been called for the purpose of organising a Muslim political party.
- Hakim Ajmal Khan was one of those who seconded the move, and the Muslim League was thus born.
- Hakim Ajmal Khan also took much interest in the expansion and development of the indigenous system of medicine, Tibb-i-Yunani.
- In order to introduce modern methods of research he transformed his family established Tibbiya School into Tibbiya College of Delhi.
- He added a research department, and a section for teaching midwifery. He encouraged upper class women to take up midwifery.
- In recognition of his services in this field the Government of India conferred on him in 1907 the title of Haziq-ul-Mulk.
- In the second decade of the 20th century we find another Hakim Ajmal Khan who was gradually drifting away from 'loyal' politics to 'national' politics. In 1910, the Government of India proposed to withdraw the professional recognition given to the Hakims and Veds.
- Hakim Ajmal Khan saw in the move an attempt of doing away with the Indian medicinal system. He organized the Hakims and Veds to protest against the proposed bill.
- About the same time, Tripoli was attacked by Italy; the British adopted an indifferent attitude and the Indian Muslims resented that and began to organise themselves. Ajmal Khan threw himself into the movement.
- Meanwhile World War I began and Indian politics stood still. But the participation of Turkey in the War changed the situation.
- Many Muslim leaders were arrested. Hakim Ajmal Khan, like many other Indians had been helping the Government in the War effort. But the mass arrest of Muslim Leaders forced him to withdraw his support.
- In 1917, Hakim Ajmal Khan came to Gandhi ji and other Congress Leaders. The association transformed the 'loyal' Ajmal Khan, into the 'rebel' Ajmal Khan.
- He renounced his title in 1920. In appreciation the Indian public honoured him with the title of Masih-ul-Mulk by which he is still known.
- In 1921, he was elected President of the Indian National Congress in place of the previously elected President, C. R. Das, who was arrested well before the session started.
- Heart trouble claimed his life on 29 December 1927.

**Hence option (c) is correct.**

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2101944>

## **2. GURU RAVIDASJI**

**Q. Which of the following statements are correct with respect to the Bhakti saint Guru Ravidas:**

1. His devotional verses were included in the Guru Granth Sahib.
2. He preached saguna bhakti as a means to attain God.

**Select the correct answer using the codes given below:**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

**Answer: (a) 1 only**

**Explanation:**

**In NEWS:** The President of India, Smt. Droupadi Murmu has greeted fellow-citizens on the eve of birth anniversary of Guru Ravidasji.

**Guru Ravidas:**

- Ravidas or Raidas was an Indian mystic poet-saint of the Bhakti movement during the 15th to 16th century CE.
- Venerated as a guru (spiritual teacher) in the modern regions of Uttar Pradesh, Bihar, Rajasthan, Gujarat, Maharashtra, Madhya Pradesh, Punjab, and Haryana, he was a poet, social reformer and spiritual figure.
- He was deeply inspired by the Bhakti movement and Nirguna (formless God) philosophy. **Hence statement 2 is incorrect.**
- Ravidas's devotional verses were included in the Sikh scriptures known as Guru Granth Sahib. **Hence statement 1 is correct.**
- The Panch Vani text of the Dadu Panthi tradition within Hinduism also includes numerous poems of Ravidas.
- He is also the central figure within the Ravidassia religious movement.
- He strongly opposed caste-based discrimination and advocated for a society based on love, justice, and equality.
- His teachings deeply influenced Sant Kabir, Meera Bai, and Sikhism.

**Teachings and Philosophy:**

- Equality & Social Justice – Rejected casteism and untouchability, promoting a society based on human dignity and respect.
- Devotion (Bhakti) – Preached direct devotion to God (Nirguna Bhakti) rather than rituals and priestly mediation.
- Simple Living & Honest Work – Emphasized the dignity of labor and self-reliance.

- Begumpura (Ideal Society) – Envisioned a caste-free, class-free, and discrimination-free utopia, where all people live in peace and happiness.

**Contribution to Indian Spirituality & Literature:**

- Verses in Guru Granth Sahib – 40 of his hymns are included in Sikhism's holy scripture, Guru Granth Sahib.
- Dohe and Padas – His poetry was composed in Hindi, Punjabi, and Braj Bhasha, filled with deep spiritual wisdom.
- Famous Hymn: "Begumpura Shehar Ka Nao" – Describes an ideal, discrimination-free city.

**PYQ REFERENCE:****Q. Consider the following statements:**

1. Saint Nimbarka was a contemporary of Akbar.
2. Saint Kabir was greatly influenced by Shaikh Ahmad Sirhindi.

**Which of the statements given above is/are correct?**

- (a) 1 only  
(b) 2 only  
(c) Both 1 and 2  
(d) Neither 1 nor 2

Source: <https://pib.gov.in/PressReleasePage.aspx?PRID=2101929>

### 3. Dokra Craft

**Q. Dokra craft refers to**

- (a) Bamboo handicrafts with a handmade drawing  
(b) A traditional metal craft that involves the lost-wax technique  
(c) A traditional craft of making painted and embossed pottery  
(d) A terracotta artwork depicting figurines of gods and goddesses.

**Answer: (b) A traditional metal craft that involves the lost-wax technique**

**Explanation:**

**In NEWS:** PM Modi gifted Macron a traditional Dokra artwork of musicians playing Indian instruments.

**Dhokra Craft:**

- Dhokra is non-ferrous metal casting using the lost-wax casting technique. **Hence option (b) is correct.**
- Dokra is made using non-ferrous metals like brass, bronze, and copper.

- This sort of metal casting has been used in India for over 4,000 years and is still used.
- One of the earliest known lost wax artifacts is the dancing girl of Mohenjo-daro.
- The name "Dokra" comes from the Dhokra Damar tribes, the traditional metal artisans of Chhattisgarh, Odisha, West Bengal, and Jharkhand.
- Dhokra horses, elephants, peacocks, owls, religious images, measuring bowls, and lamp caskets etc., are highly appreciated.

**The Lost-Wax Casting Process:**

- Creating a Clay Core – The base structure of the artifact.
- Wax Molding – A layer of beeswax is applied, and fine designs are carved on it.
- Clay Coating & Drying – Another layer of clay is applied over the wax, forming a mold.
- Heating & Wax Removal – The mold is heated, and the wax melts away, leaving a hollow space.
- Metal Pouring – Molten brass or bell metal is poured into the mold.
- Cooling & Finishing – Once solidified, the mold is broken, revealing the final metal artwork.



**PYQ REFERENCE:**

**Q. Kalamkari painting refers to**

- (a) a hand-painted cotton textile in South India
- (b) a handmade drawing on bamboo handicrafts in North-East India
- (c) a block-painted woollen cloth in Western Himalayan region of India
- (d) a hand-painted decorative silk cloth in North-Western India

**Source:**

<https://indianexpress.com/article/india/dokra-art-silver-mirror-pm-modi-gift-macron-french-first-lady-jd-vance-9833717/>