



**UPSC  
Mentorship**  
A Unit of Mentorship India

# DAILY CURRENT AFFAIRS

29 July 2024



SOURCES



## Table of Contents

1. CITES eases norms for agarwood export; move to benefit lakhs of farmers from the Northeast.....	2
2. PM may visit Ukraine, first time since war, on Aug. 23.....	3
3. At NITI meet, PM calls for combined efforts of States.....	4
4. Army contingent in Mongolia for 21st Khaan Quest exercise.....	6
5. Surprising 'dark oxygen' discovery could ensnarl deep-sea mining.....	6
6. Centre scraps auction of three critical mineral blocks.....	8
7. Should India focus on natural farming?.....	9
8. Liberia.....	12
9. Udanti Sitanadi Tiger Reserve.....	12
Daily Quiz.....	14
Solutions.....	16



## GS I

# 1. CITES eases norms for agarwood export; move to benefit lakhs of farmers from the Northeast

**Source:** The Hindu

**Context:** India has successfully prevented the inclusion of agarwood (*Aquilaria malaccensis*) in the Review of Significant Trade (RST) of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES).

**Agarwood:**

- Agarwood, also known as **oud, aloeswood, or gaharu**, is a highly valuable and fragrant resinous wood formed in the heartwood of *Aquilaria* trees. It is an **evergreen tree that can grow to 40 metres**.
- The tree reacts to the infection (stress-response) by producing a dark aromatic resin, which gives the wood its characteristic fragrance.

**Geographical Distribution:**

- The tree is **native to the countries in South and South-East Asia**, particularly India (North-East Indian states), Bangladesh, Bhutan, Indonesia, Malaysia, Myanmar, the Philippines, and Thailand.

**Economic value:**

- Agarwood oil or oud is extracted through **steam distillation**.
- This oil is highly prized in the perfume industry, and termed as **'liquid gold.'**

**Uses:**

- Agarwood is **used in the production of high-end perfumes, incense sticks, traditional medicine, and religious and cultural rituals**.
- It is highly valued in Middle Eastern and East Asian cultures.

**Conservation status:**

- Due to **unchecked demand for agarwood**, trade in the tree and its products is protected by CITES (Convention on International Trade in Endangered Species of Wild Fauna and Flora).
- It is listed in **Appendix II** of the CITES.

**IUCN status:**

- The most renowned species for agarwood production is *Aquilaria malaccensis* which is **'critically endangered'**.
- Its population has declined over 80% in the past 150 years due to indiscriminate logging and commercial exploitation.



## GS II

### 2. PM may visit Ukraine, first time since war, on Aug. 23

Source: The Hindu

Context: Planning is under way for a visit by Prime Minister Narendra Modi to Ukraine, likely on August 23, for what would be his first trip to the war-torn country.

#### India-Ukraine Relations:

##### Diplomatic Relations:

- Immediately after the breakup of the Soviet Union, the Government of India recognized the Republic of Ukraine as a sovereign independent country in December 1991.
- The Embassy of India in Kyiv was established in May 1992 and Ukraine opened its Mission in New Delhi in February 1993.

##### Defence Relations:

- Ukraine has been a source of military technology and equipment for India since its independence.
- Ukraine manufactures the R-27 air-to-air missiles which are in use by the IAF on its SU-30MKI fighters.
- Now, India is also supplying its weapons to Ukraine to enhance defence cooperation between the two countries.

##### Trade:

- India is Ukraine's largest export destination in the Asia-Pacific and the fifth largest overall export destination.
- Pharmaceuticals account for the majority of Indian exports to Ukraine.

##### Challenges:

- The rift between Russia and Ukraine, which burst out into armed combat when Moscow annexed the Crimean Peninsula from Ukraine in 2014, has created a potential dilemma for India.
- Russia has begun objecting to customers dealing with Ukraine.
- The potential for trouble with Russia exists because the Indian Air Force (IAF) is currently collaborating with Ukraine to overhaul its fleet of AN-32s



## 3. At NITI meet, PM calls for combined efforts of States

**Source:** The Hindu

**Context:** Political fault lines that emerged after the Lok Sabha election deepened in the first NITI Aayog Governing Council meeting

**NITI Aayog (National Institution for Transforming India):**

- The NITI Aayog (National Institution for Transforming India) is the premier policy ‘Think Tank’ of the Government of India (GoI), playing a pivotal role in shaping the strategic long-term policies and programs for the country.
- The Core Mission of NITI Aayog includes providing critical directional and strategic input into the development process and being the incubator of ideas for development.

**Composition of NITI Aayog:**

- **Chairperson of NITI Aayog:** The Prime Minister of India is the ex-officio chairman of NITI Aayog.
- **The Governing Council of the NITI Aayog comprises of:**
  - Chief Ministers of all the States,
  - Chief Ministers of the Union Territories with Legislatures (i.e. Delhi, Puducherry and Jammu and Kashmir) and
  - Lt. Governors of the Union Territories without Legislatures.

**Regional Councils of NITI Aayog:**

- Regional Councils of the NITI Aayog are formed for a specific tenure to address specific issues and contingencies impacting more than one state or region.
- **The Chairperson of the NITI Aayog i.e. the Prime Minister of India convenes a Regional Council as and when needed.**
- A Regional Council comprises the Chief Ministers of the States and Lt. Governors of the Union Territories (UTs) lying in a particular region.
- Regional Councils are **chaired by the Chairperson of the NITI Aayog or his/her nominee.**

**Special Invitees to NITI Aayog:**

- The **Prime Minister of India nominates Experts, Specialists, and Practitioners** with relevant domain knowledge as special invitees to the NITI Aayog.

**Full-Time Organisational Framework of NITI Aayog:**

- **Chairperson:** The Prime Minister of India.
- **Vice-Chairperson:** He/she is appointed by the Prime Minister. He/she enjoys the rank of a Cabinet Minister.
- **Full-time Members:** They enjoy the rank of a Minister of State.



- **Part-time Members:** Maximum of 2, from leading universities, research organisations, and other relevant institutions in an ex-officio capacity. Part-time members are on a rotation.
- **Ex-Officio Members:** A maximum of 4 members of the Union Council of Ministers to be nominated by the Prime Minister.
- **Chief Executive Officer:** He/she is appointed by the Prime Minister for a fixed tenure, in the rank of Secretary to the Government of India.

#### Objectives of NITI Aayog:

- To foster **cooperative federalism** through structured support initiatives and mechanisms with the States on a continuous basis, recognizing that strong States make a strong nation.
- To **develop mechanisms to formulate credible plans at the village level** and aggregate these progressively at higher levels of government.
- To ensure, in areas that are specifically referred to, that the interests of national security are incorporated in economic strategy and policy.
- To **pay special attention to the sections of our society that may be at risk of not benefitting adequately from economic progress.**
- To create a **knowledge, innovation, and entrepreneurial** support system through a collaborative community of national and international experts, practitioners, and other partners.

#### NITI Aayog and Cooperative Federalism:

- One of the foremost goals of NITI Aayog is to **actualize Cooperative Federalism in India.**
- Towards this goal, the NITI Aayog acts as the quintessential platform, which brings the Center as well as States together as **'Team India'** to work towards the national development agenda.

#### Steps Taken by NITI Aayog to Promote Cooperative Federalism:

- **Meetings** between the **Prime Minister, Cabinet Ministers and all Chief Ministers,**
- Subgroups of Chief Ministers on subjects of national importance,
- **Sharing of best practices,**
- **Policy support and capacity development** of State/Union Territory functionaries,
- Launching of the **Aspirational Districts Programme** for the development of backward districts,
- Theme-based extensive engagements in various sectors,
- Framing model laws for land leasing and agriculture marketing reforms,
- Area-specific interventions for the North Eastern and Himalayan States and island development.
- Providing relevant technical advice to the Centre, States, and UTs.



## 4. Army contingent in Mongolia for 21st Khaan Quest exercise

Source: The Hindu

**Context:** An Indian contingent is part of the 21st edition of Khaan Quest, a multinational peacekeeping exercise, which commenced in Mongolia.

**Exercise KHAAN QUEST:**

- The Indian Army contingent departed for the Exercise KHAAN QUEST which is scheduled to be conducted from 27th July to 9th August 2024 at Ulaanbaatar, Mongolia.
- It is a **multinational military exercise** which will bring together military forces from around the world to collaborate and enhance their peacekeeping capabilities.

**Background:**

- The exercise first started as a bilateral event between USA and Mongolian Armed Forces in the year 2003.
- Subsequently, from the year 2006 onwards the exercise graduated to a Multinational Peacekeeping Exercise with the current year being the 21st iteration.
- The Indian Army contingent comprising 40 personnel is being represented mainly by troops from a Battalion of the MADRAS REGIMENT along with personnel from other Arms and Services. **One Woman Officer and two Women Soldiers will also form part of the contingent.**
- **Aim of Exercise KHAAN QUEST is to prepare Indian Armed Forces for peacekeeping missions.**
- Tactical drills to be practised during the exercise will include establishment of Static and Mobile Check Points, Cordon and Search Operations etc.

## GS III

## 5. Surprising 'dark oxygen' discovery could ensnarl deep-sea mining

Source: The Hindu

**Context:** Deep-sea mining is expected to be a major marine resource extraction activity in the coming decades.

**Dark Oxygen:**

- **Oxygen that is being produced in complete darkness thousands of feet below the ocean surface is termed dark oxygen.**



### Why is the discovery important?

- Until now, it was thought that oxygen was created only through photosynthesis, a process that requires sunlight.
- **Oceanic plankton, drifting plants, algae, and some bacteria are the primary elements** attributed to the production of oxygen in the ocean. All these organisms are capable of photosynthesis.
- The production of oxygen at such depths is thought to be impossible because there isn't enough sunlight for plants to do photosynthesis.
- However, in this case, oxygen is not being produced by plants. **The oxygen comes out of Polymetallic nodules** that are similar in resemblance to lumps of coal.
- These nodules, **made up of metals like manganese, iron, cobalt, nickel, copper, and lithium**, can generate oxygen through electrochemical activity even in the absence of light.
- They are **splitting H<sub>2</sub>O molecules into hydrogen and oxygen**.

### Key Facts about Polymetallic Nodules:

- Polymetallic nodules, **also known as manganese nodules**, are **small, rounded accretions found on the seabed of the deep ocean floor**.
- These nodules are **composed of a mixture of metals and minerals, including manganese, iron, nickel, copper, cobalt**, and traces of other valuable elements such as platinum, rare earth elements, and lithium.
- Polymetallic nodules form through a **slow and gradual process** over millions of years.
- They develop as concentric layers around a central nucleus, which can be a **shell fragment, a shark tooth, or a piece of basaltic rock**.
- The layers are primarily composed of **manganese and iron oxides**, with other metals being deposited along with them.
- These metals are really important for the production of **lithium-ion batteries** used in **electric vehicle batteries, mobile phones, wind turbines, solar panels**, etc.
- They are mainly found in the **north-central Pacific Ocean, the southeastern Pacific Ocean, and the northern Indian Ocean**.

### What is photosynthesis?

- **Photosynthesis** is the process by which **plants use sunlight, water, and carbon dioxide to create oxygen and energy in the form of sugar**. Most life on Earth depends on photosynthesis.
- The process is carried out by plants, algae, and some types of bacteria, which capture energy from sunlight to produce oxygen (O<sub>2</sub>) and chemical energy stored in glucose (a sugar).
- Herbivores then obtain this energy by eating plants, and carnivores obtain it by eating herbivores.





## 6. Centre scraps auction of three critical mineral blocks

**Source:** The Hindu

**Context:** The Centre has scrapped the auction of three critical mineral blocks notified under a third round of sales as there were fewer bidders than expected.

### What are Critical Minerals?

- Critical minerals are those **minerals that are essential for economic development and national security**, the lack of availability of these minerals or concentration of extraction or processing in a few geographical locations may lead to supply chain vulnerabilities and even disruption of supplies.
- Critical minerals have no particular definition and countries identify the minerals critical to them using their own criteria.

### Critical Minerals for India:

- India has identified critical minerals depending upon their disruption potential, substitutability, cross-cutting usage across different sectors, import reliance, recycling rates etc.
- Expert Committee under **Ministry of Mines** has identified a set of 30 critical minerals for India:
- These are **Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, PGE, Phosphorous, Potash, REE, Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.**
- The states/UTs which house these 30 identified critical minerals are **Bihar, Gujarat, Jharkhand, Odisha, Tamil Nadu, Uttar Pradesh, Chhattisgarh and Jammu and Kashmir.**
- **Creation of Centre of Excellence for Critical Minerals (CECM)** under the **Ministry of Mines** is also recommended by the Committee. CECM will periodically update the list of critical minerals for India and notify the critical mineral strategy from time to time.

### Significance of Critical Minerals

- **Economic Development:**
  - Industries such as high-tech electronics, telecommunications, transport, and defence heavily rely on these minerals. Additionally, critical minerals are essential for green technologies like solar panels, wind turbines, batteries, and electric vehicles.
  - Critical minerals play a significant role in decarbonisation, it is not limited to just that. They are also required for fertilisers, construction, magnets for industries, transport, consumer electronics, defence, etc.



- **National Security:**
  - These minerals are vital for defence, aerospace, nuclear, and space applications, necessitating the use of high-quality and reliable materials capable of withstanding extreme conditions and performing complex functions.
  - To ensure defence preparedness and self-reliance, India must secure a steady supply of critical minerals.
- **Environmental Sustainability:**
  - As far as India is concerned, the availability of critical minerals (and rare earths) is crucial as it has massive plans to become net-zero by 2070. By 2030, India wants to set up 500 GW of non-fossil fuel power generating capacity.
  - It also wants 30% of private cars, 70% of commercial vehicles and 80% of two/three wheelers to go electric. All this will not be possible without a steady source of lithium and other minerals required to manufacture batteries.

## Editorial, Ideas and Opinions

### 7. Should India focus on natural farming?

**Source:** The Hindu

**Context:** We are self-sufficient in agricultural produce, thanks to the Green Revolution. But the negative environmental impacts in green revolution regions are all too visible — soil degradation, biodiversity loss, natural resources depletion, among others.

**Natural Farming:**

- Natural farming is a **chemical-free farming method** that uses locally available resources and traditional practices. It's based on agroecology and integrates crops, trees, and livestock.
- Natural farming also uses **beneficial microorganisms to improve soil quality and health**.

**What are the Benefits of Natural Farming?**

**Environmental Benefits:**

- **Healthy Soil:** Natural farming techniques like composting and mulching enhance soil fertility by promoting beneficial microorganisms and organic matter. This leads to improved water retention, increased nutrient availability, and better crop yields.
- **Water Conservation:** Natural methods like mulching and drip irrigation help retain moisture in the soil, reducing the need for excessive water usage. This is crucial for sustainable water management and combating drought conditions.



- **Reduced Pollution:** By substituting chemical fertilisers and pesticides with natural alternatives, natural farming significantly reduces the pollution of soil, water bodies, and the atmosphere. This protects ecosystems and human health from harmful chemicals.
- **Climate Change Mitigation:** Natural farming practices generally have a lower carbon footprint compared to conventional agriculture. Additionally, healthy soil acts as a carbon sink, capturing greenhouse gases and contributing to climate change mitigation.

#### Farmer Benefits:

- **Reduced Costs:** Natural farming relies on locally available resources and on-farm inputs, like compost and bio-pesticides, leading to lower dependence on expensive external inputs like chemical fertilisers and pesticides. This reduces the overall cost of production and improves farmer profitability.
- **Improved Farm Resilience:** Natural farming techniques make farms more resilient to extreme weather events like droughts and floods by promoting soil health and biodiversity. This leads to greater stability and reduces risks for farmers.
- **Enhanced Farmer Health:** By eliminating exposure to harmful chemicals, natural farming protects farmers' health and well-being.

#### Consumer Benefits:

- **Safer Food:** Natural farming produces food free from harmful chemical residues, leading to safer and healthier consumption for consumers.
- **Improved Food Quality:** Studies suggest that naturally grown food can have higher levels of antioxidants and other beneficial nutrients, potentially leading to improved health outcomes for consumers.
- **Support for Sustainable Agriculture:** Consumers who choose natural food products indirectly support a more sustainable and ethical agricultural system that benefits the environment and farmers.

#### What are the Challenges Related to Natural Farming?

- **Limited market:** Farmers who have been practising NF do not get premium prices for their products, as differentiated markets, standards and protocols don't exist sufficiently. Many farmers confess that NF products are largely for home consumption.
- Moreover, there is a lack of certification and standardisation for natural farming, which makes it hard to distinguish from organic or conventional farming.
- **Lower Initial Yields:** Natural farming relies on building healthy soil ecosystems, which takes time. This often translates to lower yields in the initial years compared to conventional methods that rely on chemical inputs for quick boosts.
- **Lack of Awareness and Training:** Many farmers lack knowledge and practical skills in natural farming techniques, making them hesitant to switch. Limited access to training programs and extension services further exacerbates the problem.
- In Himachal Pradesh, despite government initiatives to promote natural farming, many farmers remain unaware of the specific practices and benefits, hindering wider adoption.



- **Availability and Affordability of Organic Inputs:** The high cost of organic cotton seeds discourages farmers from adopting natural cotton cultivation, despite the long-term benefits for soil health and market demand
- **Pest and Disease Management:** Natural farming relies on ecological methods for pest and disease control, which can be less effective than chemical pesticides in the short term. This requires farmers to be more vigilant and adopt preventative measures.
- For Example, Apple growers in Jammu and Kashmir face challenges in managing codling moth infestations using natural methods, leading to some reverting to chemical pesticides

#### **Measures Should be Taken to Promote Natural Farming:**

- **Developing Alternative and Differentiated Markets:** The government should explore alternate markets, if we have to transit to NF.
- Here are some ideas on expanding alternative markets for the NF:
  - **Public Distribution System (PDS):** Integrating NF produce into the PDS can not only provide a stable market for farmers but also ensure the availability of healthy and chemical-free food to a wider population.
  - **Utilise the Existing Mechanisms:** The existing networks of Primary Agricultural Cooperative Societies and Marketing Federations may also be included. Collaborating with Farmer Producer Organizations (FPOs) can enhance the efficiency of production, procurement, and distribution.
  - **Mid-day Meal Programme:** The mid-day meal program can become a new market by shifting from importing food to using local decentralised systems. This involves local production, procurement, storage, and distribution using produce from nearby areas, with the participation of FPOs. Local crops for local requirements must be the mantra.
  - **Dedicated Haats:** There are about 43,000 village haats (markets), a chain of farmers' markets in Andhra Pradesh, Telangana and Tamil Nadu.



## In Brief

### 8.Liberia

**Source:** The Hindu

**Context:** The group of senators have submitted a proposal to the government to relocate Liberia's capital city Monrovia. The development has come just weeks after the country witnessed flash floods.

**Liberia:**

- **Location:** It is located along the coast of western Africa.
- It is the **only state in Africa which was never subjected to colonial rule and is Africa's oldest republic.**
- **Land Boundary:** It is bounded by Sierra Leone to the northwest, Guinea to the north, Côte d'Ivoire to the east, and the Atlantic Ocean to the south and west.
- **The Atlantic Ocean borders Liberia to the south-southwest.**
- It has **Cape Mount** in the northwest, **Cape Mesurado** in Monrovia, and **Cape Palmas** in the southeast.
- **Major Rivers:** The Mano and Morro Rivers in the northwest and the Cavalla in the east and southeast are major rivers and form sections of Liberia's boundaries.
- **Natural resources:** It has natural resources like Iron diamonds, gold, lead, manganese, graphite, cyanite

### 9.Udanti Sitanadi Tiger Reserve

**Source:** The Hindu

**Context:** The tiger reserve, situated in Chhattisgarh's Gariaband district, has faced challenges due to illegal encroachment in its buffer area.

**Udanti Sitanadi Tiger Reserve (USTR):**

- **Location:** It is located in the Dhamtari District of Chhattisgarh.
- **Udanti and Sitanadi, are two wildlife sanctuaries, combined together to form the reserve.**
- It was declared a tiger reserve in the year 2008-09.
- **Rivers:** The Udanti River flows from west to east in the Udanti Wildlife Sanctuary, and the Sitanadi River originates from the middle of the Sitanadi Wildlife Sanctuary.
- There are a few perennial springs, including the famous **Deodhar and Godene falls.**
- **Topography:** The topography of the area is a broken mass of land traversed by innumerable hill ranges intercepted by strips of plains.



- **Vegetation:** Mixed vegetation is present in the reserve. Dry deciduous forests, tropical and sub-tropical vegetation are also observed here, especially in the area around streams and waterways.
- **Flora:** It contains various types of forest crops mixed with Sal Forest.
- The ground is covered with a maze of grass, plants, bushes and saplings.
- **Fauna:**
  - All the representative faunal species of **Central India** are found in the reserve.
  - The **Asiatic Wild Buffalo** is the **key endangered species** found in the core area.
  - Apart from the tiger, other endangered and rare species are the Indian Wolf, Leopard, Sloth Bear and Mouse Deer.



## Daily Quiz

**Q1. Consider the following statements regarding critical minerals:**

- Statement 1:** Critical minerals are essential for the production of high-tech devices, renewable energy technologies, and national defence systems.
- Statement 2:** India is self-sufficient in the production of all critical minerals and does not rely on imports for any of them.

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

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

**Q2. Consider the following statements regarding the boundaries of Ukraine:**

- Statement 1:** Ukraine shares its longest border with Russia.
- Statement 2:** Ukraine is bordered by both the Black Sea and the Sea of Azov.

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

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

**Q3. Udanti-Sitanadi Tiger Reserve is located in which of the following states of India?**

- Madhya Pradesh
- Chhattisgarh
- Odisha
- Maharashtra

**Q4. Consider the following statements regarding the differences between natural farming and organic farming:**

- Statement 1:** Natural farming avoids the use of any external inputs, including organic fertilisers and pesticides, whereas organic farming allows the use of organic inputs like compost and biopesticides.
- Statement 2:** Natural farming practices typically involve the use of crop residues and green manures to maintain soil fertility, while organic farming may incorporate both these and animal manures.
- Statement 3:** Certification standards are more commonly associated with organic farming than with natural farming.

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

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2, and 3

**Q5. Consider the following statements:**

**Assertion (A):** Dark oxygen is considered harmful to biological systems.

**Reason (R):** Dark oxygen induces oxidative stress by generating reactive oxygen species (ROS) which damage cellular components such as DNA, proteins, and lipids.

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

- Both A and R are true, and R is the correct explanation of A.
- Both A and R are true, but R is not the correct explanation of A.
- A is true, but R is false.
- A is false, but R is true.



**Q6. Consider the following statements regarding photosynthesis:**

1. Photosynthesis occurs only during the daytime in the presence of sunlight.
2. Carbon dioxide is a by-product of photosynthesis.

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

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

**Q7. Consider the following statements regarding NITI Aayog:**

1. NITI Aayog was established by an act of Parliament.
2. NITI Aayog replaced the Planning Commission of India.
3. The Prime Minister of India serves as the chairperson of NITI Aayog.

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

- A. 1 and 2 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2, and 3

**Q8. Consider the following statements regarding CITES (the Convention on International Trade in Endangered Species of Wild Fauna and Flora):**

1. CITES is a legally binding treaty that automatically enforces international law on its member countries.
2. CITES aims to ensure that international trade in specimens of wild animals and plants does not threaten their survival.
3. All species listed under CITES are prohibited from international trade.

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

- A. Only one
- B. Only two
- C. All three
- D. None of the above





## Solutions

### 1. Correct Answer is A

#### Explanation:

- **Statement 1 is correct.** Critical minerals are indeed essential for the production of high-tech devices, renewable energy technologies, and national defence systems. Examples include rare earth elements, lithium, cobalt, and others which are crucial for these applications.
- **Statement 2 is incorrect.** India, like many other countries, depends on imports for several critical minerals. The country does not have sufficient domestic reserves or production capacity to meet its needs for all critical minerals.

### 2. Correct Answer is C

#### Explanation:

- **Statement 1 is correct.** Ukraine shares its longest border with Russia, which is a significant geopolitical factor.
- **Statement 2 is correct.** Ukraine is bordered by both the Black Sea to the south and the Sea of Azov to the southeast. These bodies of water are crucial for Ukraine's maritime access and trade.

### 3. Correct Answer is B

#### Explanation:

The Udanti-Sitanadi Tiger Reserve is situated in the state of Chhattisgarh. It is known for its population of tigers and other wildlife, and it plays a significant role in conservation efforts in the region.

### 4. Correct Answer is D

#### Explanation:

- **Statement 1 is correct.** Natural farming completely avoids the use of any external inputs, relying instead on natural processes and local resources. Organic farming, on the other hand, permits the use of organic inputs such as compost, green manure, and biopesticides.

- **Statement 2 is correct.** Natural farming emphasises using crop residues and green manures to maintain soil fertility. Organic farming also incorporates these practices but often includes the use of animal manures as well.
- **Statement 3 is correct.** Certification standards and labels (like USDA Organic) are commonly associated with organic farming to ensure adherence to specific practices and inputs. Natural farming typically does not involve formal certification standards, focusing more on traditional and sustainable practices.

### 5. Correct Answer is A

#### Explanation:

- **Assertion (A):** Dark oxygen refers to reactive oxygen species (ROS), which are highly reactive molecules containing oxygen. These molecules are harmful because they can lead to oxidative stress within biological systems.
- **Reason (R):** The harmful effects of dark oxygen are due to the generation of ROS, which can damage essential cellular components such as DNA, proteins, and lipids. This damage can impair cell function and lead to various diseases and ageing.

Since the generation of ROS by dark oxygen is the primary mechanism through which it induces harm in biological systems, the reason provided (R) correctly explains the assertion (A). Therefore, both the assertion and the reason are true, and the reason is the correct explanation of the assertion.



**6. Correct Answer is D**

**Explanation:**

- **Statement 1:** Photosynthesis primarily occurs during the daytime when sunlight is available because light is a crucial component for the light-dependent reactions. However, the overall process of photosynthesis, including the light-independent reactions (Calvin cycle), can continue in the absence of light as long as ATP and NADPH produced during the light-dependent reactions are available.
- **Statement 2:** Oxygen, not carbon dioxide, is a by-product of photosynthesis. Photosynthesis converts carbon dioxide and water into glucose and oxygen, using the energy from sunlight.

**7. Correct Answer is B**

**Explanation:**

- **Statement 1: Incorrect.** NITI Aayog was not established by an act of Parliament. It was created by an executive resolution of the Government of India.

- **Statement 2: Correct.** NITI Aayog replaced the Planning Commission of India, which was established in 1950.
- **Statement 3: Correct.** The Prime Minister of India serves as the chairperson of NITI Aayog, providing leadership and strategic direction to the organisation.

**8. Correct Answer is B**

**Explanation:**

**Statement 1: Incorrect.** While CITES is legally binding, it does not automatically enforce international law on its member countries. Each member country must adopt its own domestic legislation to implement CITES provisions.

**Statement 2: Correct.** The primary aim of CITES is to ensure that international trade in specimens of wild animals and plants does not threaten their survival. It provides a framework to regulate and monitor such trade.

**Statement 3: Incorrect.** Not all species listed under CITES are prohibited from international trade. CITES lists species in three appendices with different levels of protection and trade restrictions. Some species may be traded under strict regulations to ensure their survival.

**MAINS PRACTISE QUESTION**

**Q- Discuss the concept and benefits of natural farming in the context of India's agricultural sector. How can natural farming be promoted and scaled up?**





## GET IN TOUCH

+919999057869

[www.upsmentorship.com](http://www.upsmentorship.com)

@mentorship.india

C - 103, Second Floor, Sector-2  
Noida - 201301

[contact@mentorshipindia.com](mailto:contact@mentorshipindia.com)