



DATE: 10.09.2026

- 1) Consider the following statements regarding the Directorate of Revenue Intelligence (DRI):
1. The Directorate of Revenue Intelligence functions under the Central Board of Direct Taxes (CBDT), Ministry of Finance.
 2. The DRI enforces the provisions of the Customs Act, 1962 and several allied Acts, including the NDPS Act, Wildlife Act and Antiquities Act.
 3. The DRI is tasked with detecting and curbing smuggling of contraband, including illicit international trade in wildlife and environmentally sensitive items.

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

- 2) Consider the following statements regarding Lithium:

1. Australia is the largest producer of lithium in the world.
2. Lithium in India is found in Jammu and Kashmir, Rajasthan, and Karnataka.
3. Lithium compounds are used as psychiatric medications.

How many of the above statements is/are correct?

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

- 3) Consider the following applications of Green Hydrogen:

1. Production of green ammonia and fertilisers
2. Use as a reducing agent in the steel industry
3. Use in refineries for hydrocracking and desulphurisation
4. Electrolysis of water using renewable electricity

How many of the above are applications of Green Hydrogen?

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

- 4) **Assertion (A):** Photonic integrated circuits can potentially improve the speed and efficiency of information processing and communication.

Reason (R): Photonic systems can manipulate and transmit information using light at very high speeds and bandwidths, reducing limitations of electrical interconnects.

Select the correct answer using the code given below:

- (a) Both A and R are correct, and R is the correct explanation for A.
- (b) Both A and R are correct, but R is not the correct explanation for A.
- (c) A is correct, but R is incorrect.



(d) A is incorrect, but R is correct.

5) Consider the following statements regarding the World Resources Institute (WRI):

1. WRI functions under the United Nations Environment Programme (UNEP) as an intergovernmental institution.
2. WRI established the Greenhouse Gas Protocol (GHG Protocol) along with the World Business Council for Sustainable Development (WBCSD).
3. Global Forest Watch, led by WRI, uses satellite data and other sources to monitor forests.

Which of the statements given above are **NOT** correct?

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

Explanation

1) **Answer: (B)**

- **Statement 1 is incorrect:** DRI functions under the Central Board of Indirect Taxes and Customs (CBIC), not CBDT.
- **Statement 2 is correct:** DRI enforces the Customs Act, 1962 and several allied laws, including the NDPS Act, Wildlife Act and Antiquities Act.
- **Statement 3 is correct:** DRI works to detect and curb smuggling of contraband, including drug trafficking and illicit international trade in wildlife and environmentally sensitive items.
- **Therefore , option B is the correct answer.**

2) **Answer: (C)**

- **Statement 1 is correct:** Australia leads globally in annual lithium production, primarily extracted from hard-rock spodumene deposits.
- **Statement 2 is correct:** Geological investigations by the Geological Survey of India (GSI) and atomic agencies have confirmed or explored significant lithium reserves in Jammu and Kashmir (Reasi), Rajasthan (Degana), and Karnataka (Mandya).
- **Statement 3 is correct:** Lithium salts (such as lithium carbonate) are widely prescribed as mood-stabilizing psychiatric medications, notably for bipolar disorder.
- **Therefore , option C is the correct answer.**

3) **Answer: (C)**

- **Production of green ammonia and fertilisers is Correct.**
Green hydrogen can replace fossil fuels in the production of **ammonia**, which is an important ingredient in fertilisers.
- **Use as a reducing agent in the steel industry is Correct.**
Green hydrogen can replace **coal-based processes in the steel industry**, helping to significantly reduce emissions.



- **Use in refineries for hydrocracking and desulphurisation is Correct.**
Hydrogen is used in refinery processes such as **hydrocracking and desulphurisation**. Green hydrogen can provide a cleaner source of hydrogen for these applications.
- **Electrolysis of water using renewable electricity is Incorrect.**
This is a **production method** of green hydrogen, not an application. In electrolysis, water is split into hydrogen and oxygen using renewable electricity.
- **Therefore ,Option C is the correct answer.**

4) Answer: (A)

Assertion (A): Correct: Photonic integrated circuits use light for processing and transmitting information. They can enable faster and more efficient communication, particularly in high-data-rate applications.

Reason (R) : Correct: Light-based systems can support **very high bandwidth and fast data transmission**, while avoiding some limitations associated with electrical interconnects, such as resistance and heat generation.

Relationship: These advantages of using light directly contribute to the potential for photonic integrated circuits to improve the **speed and efficiency** of information processing and communication.

Therefore, option (a) is the correct answer.

5) Answer: (A)

- **Statement 1 is INCORRECT:** The World Resources Institute (WRI) is **not** an intergovernmental body under UNEP. It is an independent, non-profit global research organization (NGO) established in 1982 in Washington, D.C.
- **Statement 2 is CORRECT:** The **Greenhouse Gas Protocol (GHG Protocol)** was jointly established in 1998 by the **World Resources Institute (WRI)** and the **World Business Council for Sustainable Development (WBCSD)** to provide standardized global frameworks for measuring and managing corporate greenhouse gas emissions.
- **Statement 3 is CORRECT:** **Global Forest Watch (GFW)** is an online platform led and managed by WRI that uses near real-time satellite imaging, cloud computing, and open-data feeds to monitor forest cover loss and land-use changes worldwide.
- **Therefore, option A is the correct answer.**