

**17 July 2025**

**Question 1. Consider the following statements regarding India's Semiconductor Mission:**

1. The first commercial semiconductor fab established under the mission is located in Dholera, Gujarat.
2. The 28-nanometer (nm) chips, which will be produced initially, represent the most advanced and cutting-edge semiconductor technology available globally.
3. A key objective of the mission is to reduce India's import dependency and de-risk supply chains for strategic sectors.

**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: (c)**

- **Statement 1 is correct.** The news report clearly states that India's first commercial semiconductor fab was inaugurated in Dholera, Gujarat.
- **Statement 2 is incorrect.** The analysis in the news item explicitly mentions that a 28nm node is not the most advanced (cutting-edge is sub-5nm) but is a crucial "workhorse" node used in a vast array of products.
- **Statement 3 is correct.** The significance section highlights that the fab will drastically reduce India's reliance on imports and enhance national security by de-risking supply chains.

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**Question 2. The term ‘Digital Public Infrastructure (DPI)’, recently highlighted in the context of the India-Africa Forum Summit, refers to:**

1. Physical infrastructure, like fibre optic cables and data centres.
2. A set of shared digital systems, such as digital identity and payment platforms, that can be used by the public and private sectors.
3. A foreign policy tool used by India to offer a development model based on open-source and sovereign digital platforms.

**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: (b)**

- **Statement 1 is incorrect** in this context. While DPI relies on physical infrastructure, the term itself refers to the foundational digital layers built on top of it. The core concept is the shared digital system.
- **Statement 2 is correct.** This is the core definition of DPI. The 'India Stack' (Aadhaar, UPI, Digi-Locker) is a prime example of such shared systems.
- **Statement 3 is correct.** As per the news report on the India-Africa Summit, India is strategically using its success in DPI as a soft power and foreign policy tool, offering it as an empowering alternative to other development models.

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**Question 3. With reference to the National Green Hydrogen Mission, consider the following statements:**

1. Green Hydrogen is produced through the electrolysis of water, powered exclusively by renewable energy sources.
2. The mission aims to utilize Green Hydrogen primarily in the transportation and power generation sectors.
3. A key challenge for the mission is the high cost of Green Hydrogen compared to Grey Hydrogen, which is produced from fossil fuels.

**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: (a)**

- **Statement 1 is correct.** The defining characteristic of "Green" Hydrogen is that the energy used for electrolysis comes from renewable sources like solar or wind, making the process carbon-free.
- **Statement 2 is incorrect.** While transportation is a potential sector, the analysis in the news report specifically highlights that the mission's next phase must focus on stimulating demand from "hard-to-abate" sectors like steel and cement, in addition to heavy transport. The statement is too narrow and misses the primary focus areas.
- **Statement 3 is correct.** The news analysis explicitly states that the current cost of green hydrogen is significantly higher than grey hydrogen and that ensuring cost-competitiveness is a real challenge.

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**Question 4. The term ‘TEDBF’, which appeared in the news, is associated with:**

- (a) A new stealth submarine under Project 76 with Air-Independent Propulsion.
- (b) An indigenously developed Twin Engine Deck deck-based fighter for aircraft carriers.
- (c) An AI-based tool for the preliminary screening of candidates for judicial appointments.
- (d) A new crypto-asset trading platform is being monitored by the RBI.

**Answer: (b)**

- The news report on the Indian Navy clearly states that the second air wing for INS Vikrant is being commissioned with the initial batch of the indigenously developed Twin Engine Deck Based Fighter (TEDBF).
- Statement (a) is incorrect; that refers to Project 76.
- **Statement (c) is incorrect;** that refers to the AI tool for the Collegium.
- **Statement (d) is incorrect;** it relates to the RBI report on crypto.

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