

Solutions to MCQs – Based on Current Affairs (8 July 2025)

1. With reference to the “Battery Passport Framework” being developed in India, which of the following features are correct?

1. Provides unique digital identity for each EV battery
2. Enables real-time tracking across its lifecycle
3. Mandates blockchain integration for battery reuse

Select the correct answer using the code below:

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

☒ Answer: A

Explanation:

- **Statement 1 – Correct:** The Battery Passport provides a **unique digital identity** (like Aadhaar) for each battery, encoded in a QR code.
 - **Statement 2 – Correct:** The passport allows **real-time tracking** across production, usage, and end-of-life stages.
 - **Statement 3 – Incorrect:** There is **no mandate for blockchain integration**; the framework is **QR-based and data-protocol driven**, not blockchain-enabled.
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2. The Vera C. Rubin Observatory, recently in news, is designed to:

- A. Track gravitational waves from neutron star collisions
B. Monitor cosmic background radiation fluctuations
☒ C. Create dynamic maps of the universe and detect near-Earth objects
D. Study solar flares and space weather phenomena

Explanation:

- **Option C – Correct:** The Rubin Observatory aims to **map the sky every 3 days**, detect **cosmic events**, and track **asteroids/NEOs**.
 - **Option A – Incorrect:** Gravitational waves are studied by **LIGO** and **VIRGO**, not Rubin.
 - **Option B – Incorrect:** Cosmic background radiation is studied by **Planck** and **COBE missions**.
 - **Option D – Incorrect:** Space weather is studied by **SOHO**, **Parker Solar Probe**, etc.
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3. Which of the following technologies enables access to the Dark Web?

A. VPN over IPv6

☒ **B. The Onion Router (Tor)**

C. DNSSEC-enabled Browser

D. Satellite Internet Network

Explanation:

- **Option B – Correct:** The **Tor browser** (The Onion Router) is the standard tool to access **.onion sites** on the dark web.
 - **Option A – Incorrect:** VPN may provide privacy, but **cannot access .onion domains**.
 - **Option C – Incorrect:** DNSSEC secures domain names but does not provide dark web access.
 - **Option D – Incorrect:** Satellite internet is an access medium, not a tool to reach the dark web.
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4. With reference to Dark Web operations, what does the term “Level-4 Vendor” indicate?

A. A state-authorized seller of crypto-based services

B. A dark web forum administrator

☒ **C. A highly trusted seller based on volume and reputation**

D. A vendor licensed by law enforcement for digital surveillance

Explanation:

- **Option C – Correct:** “Level-4 Vendor” is a marketplace-based ranking for vendors with **high sales, reliability, and trust**.
 - **Options A, B, D – Incorrect:** These are **fictional or unrelated definitions**. No state or law enforcement designations exist in dark web ecosystems.
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5. Japonica Rice, recently in news, was genetically edited to improve:

A. Nitrogen fixation

B. Drought resistance

☒ **C. Phosphate uptake**

D. Salinity tolerance

Explanation:

- **Option C – Correct:** Using **CRISPR-Cas9**, scientists enhanced the rice’s ability to **absorb phosphate**, boosting yields.
 - **Options A, B, D – Incorrect:** These were **not** the targeted traits in the NIPGR experiment.
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6. The CRISPR-edited japonica rice variety used which of the following approaches?

- A. Insertion of phosphorus-efficient genes from maize
- B. RNA silencing of entire phosphate transporter
- ☒ C. Knockout of 30 bp repressor binding site
- D. Full gene deletion via bacterial transduction

Explanation:

- **Option C – Correct:** Only the **30 base-pair WRKY6 repressor binding site** was knocked out using CRISPR for precision and no off-target effects.
 - **Options A, B, D – Incorrect:** These techniques were **not used** in this case.
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7. Consider the following statements regarding the UAE Golden Visa scheme:

1. It offers lifetime residency without any property or business investment.
2. It requires a UAE sponsor or employer for visa approval.
3. It has recently introduced a nomination-based system for Indians.

Which of the above are correct?

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

Explanation:

- **Statement 1 – Correct:** The **nomination-based scheme** allows **lifetime residency without investment**.
 - **Statement 2 – Incorrect:** No sponsor is required; **sponsorship-free** visa.
 - **Statement 3 – Correct:** The new model allows **Indian and Bangladeshi nationals** to be nominated based on merit.
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8. The National Overseas Scholarship Scheme, administered by the Ministry of Social Justice, provides assistance for:

- A. Undergraduate and postgraduate education in India's central universities
- B. Vocational training for SC and ST youth in India
- ☒ C. Master's and Ph.D. studies abroad for marginalized communities
- D. Teacher training for Kendriya Vidyalaya faculty

Explanation:

- **Option C – Correct:** NOS supports **SCs, DNTs, landless laborers** for **postgraduate and Ph.D. programs abroad**.

- **Options A, B, D – Incorrect:** These relate to **other schemes or domains**.
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9. Which of the following rivers form borders or flow through Namibia?

1. Kunene
2. Okavango
3. Orange
4. Congo

Select the correct answer using the code below:

- A. 1 and 2 only
B. 2 and 3 only
☒ **C. 1, 2 and 3 only**
D. 1, 2, 3 and 4

Explanation:

- **Correct Rivers (1, 2, 3):** Kunene, Okavango, and Orange are key **transboundary rivers** in Namibia.
 - **Congo – Incorrect:** It flows in **Central Africa**, not near Namibia.
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10. The Namib Desert, often mentioned in global geography, is:

- A. A monsoonal desert in Southeast Asia
B. Located along the eastern coast of Africa
☒ **C. Known for its age, uranium reserves, and hyper-arid conditions**
D. A cold desert formed by the rain shadow of the Himalayas

Explanation:

- **Option C – Correct:** The Namib is among the **oldest deserts**, located in **southwestern Africa**, rich in **minerals and hyper-arid**.
- **Option A – Incorrect:** Southeast Asia has tropical forests and monsoonal systems.
- **Option B – Incorrect:** Namib is on the **western coast**, not eastern.
- **Option D – Incorrect:** Himalayan rain shadows affect **Ladakh/Trans-Himalayan deserts**, not Namib.