

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.
- 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.



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.

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.

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.



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.

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.

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.

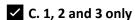
9. Which of the following rivers form borders or flow through Namibia?

- 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



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.

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.