

**Q: Consider the following statements with respect to Lantana:**

1. It is a heavily branched shrub that can grow as compact clumps, dense thickets and as a scrambling and climbing vine.
2. It is an invasive species that are native to India.
3. It has the ability to reduce the area available for grazing of livestock and Grazon Extra is a chemical that is used for eliminating lantana.

How many of the statements given above are incorrect?

- a) Only one
- b) Only two
- c) All three
- d) None of the above

Ans: a

Explanation:

- A decade-long initiative in Madhya Pradesh to reclaim land overrun by lantana helps has made the residents to restart agriculture and restore native biodiversity recently.
- Lantana is a heavily branched shrub that can grow as compact clumps, dense thickets and as a scrambling and climbing vine.
- The stems are square with small, recurved prickles along the edges.
- Leaves grow opposite one another along the stem.
- Many lantana forms are poisonous to livestock and it is one of the 10 worst invasive species in the world.
- It is an invasive species that is not native to India which was introduced in the country as an ornamental plant by the British.
- Toxic components – In lantana include the triterpene acids, lantadene A (rehmannic acid), lantadene B and their reduced forms.
- Keeping lantana at bay requires consistent management.
- Grazon Extra – Is a chemical that is best used for elimination of lanatana.
- Best time to treat – Is from December through to April, although if conditions allow treatment can be as early as October or as late as July.
- Lantana should be sprayed when the plant is actively growing. This usually occurs between December and April.

**Q: Selfing Syndrome, sometimes seen in the news, is related to which of the following?**

- a) It is a scenario where banks are under severe stress due to its own Low capital adequacy ratios (CAR).
- b) It refers to plants that are autogamous and display a complex of characteristics associated with self-pollination.
- c) It is a Syndrome in which the state is dominated by the military-industrial complex.
- d) It is a genetic disorder that is caused by missing genes on chromosome 5.

Ans: b

Explanation:

- The recent ongoing convergent evolution of a selfing syndrome threatens plant pollinator interactions.
- Self-pollination is the process by which plants reproduce themselves.
- Plants produce nectar to attract insects, which collect nectar for food and transport pollen between plants in nature.
- Scientists have recently discovered that the plant evolved to self-pollinate in order to attract fewer pollinators due to the decreasing availability of insects.
- It may benefit plants in the short term but may threaten their existence owing to climate change and other environmental changes.
- The shift from outcrossing to self-fertilization (selfing) is considered one of the most prevalent evolutionary transitions in flowering plants.
- Out-crossing or out-breeding is the technique of crossing between different breeds.
- Selfing species tend to share similar reproductive traits in morphology and function and such a set of traits is called the ‘selfing syndrome’.
- It is one of the most common evolutionary transitions in plants is the evolution of selfing from outcrossing.

- It results in reduction of flower size, nectar production, pollen production, scent production, and sometimes a loss of pigmentation.

**Q: Consider the following statement regarding Central Water Commission (CWC):**

1. It is presently functioning as an attached office of the Ministry of Jal Shakti.
2. It is headed by a Chairman, with the status of Ex-Officio Secretary to the Government of India.

Choose the correct option from the codes given below:

- a) 1 Only
- b) 2 Only
- c) 1 and 2
- d) None of the above

Ans: c

Explanation:

- Central Water Commission (CWC) is a premier technical organisation in India in the field of water resources.
- It is presently functioning as an attached office of the Ministry of Jal Shakti, Department of Water Resources, River Development, and Ganga Rejuvenation, Government of India.
- The Commission is entrusted with the general responsibilities of initiating, coordinating, and furthering, in consultation with the State Governments concerned, schemes for control, conservation, and utilisation of water resources throughout the country for the purposes of Flood Control, Irrigation, Navigation, Drinking Water Supply, and Water Power Development.
- It also undertakes the investigation, construction, and execution of any such schemes as required.
- It is headed by a Chairman, with the status of Ex-Officio Secretary to the Government of India.
- The work of the Commission is divided among three wings namely, the Designs and Research (D&R) Wing, the River Management (RM) Wing and the Water Planning and Projects (WP&P) Wing.

**Q: Consider the following statement regarding Colombo Security Conclave (CSC):**

1. It is a regional security grouping comprising India, Sri Lanka, the Maldives and Mauritius.
2. A permanent secretariat, based in Colombo.
3. Bangladesh and Seychelles are the two observer nations.

Choose the correct option from the codes given below:

- a) 1 and 2
- b) 2 and 3
- c) 1 and 3
- d) 1, 2 and 3

Ans: d

Explanation:

- Colombo Security Conclave (CSC) is a regional security grouping comprising India, Sri Lanka, the Maldives and Mauritius.
- The CSC, initially known as the Trilateral for Maritime Security Cooperation, evolved out of trilateral meetings between NSAs and Deputy NSAs from India, Maldives, and Sri Lanka, starting in 2011.
- It came to a standstill after 2014 due to rising tensions between India and the Maldives.
- After its revival and re-branding as the CSC in 2020, Mauritius was added as a member of the grouping.
- Current members of CSC include India, Maldives, Mauritius, and Sri Lanka, while Bangladesh and Seychelles are the two observer nations.
- Cooperation under the conclave focuses on five pillars – maritime safety and security, countering terrorism and radicalisation, combating trafficking and transnational organised crime, cyber-security and protection of critical infrastructure, and humanitarian assistance and disaster relief.
- A permanent secretariat, based in Colombo, was established in 2021 to coordinate all activities and implement decisions made at the NSA level.

**Q: Consider the following statements with respect to INS Imphal**

1. The ship has a total atmospheric control system (TACS).
2. It is a stealth-guided missile Corvette.

Which of the above statement(s) is/are incorrect?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

Ans: a

Explanation:

- INS Imphal is the 3rd amongst the 4, Project 15B stealth guided missile destroyer.
- It belongs to Visakhapatnam class destroyer which is arguably one of the most advanced classes of ships in the Indian Navy.
- Destroyers are a category of warships that have high speed, manoeuvrability and longer endurance.
- The ship has a total atmospheric control system (TACS) which offers protection to the crew from chemical, biological and nuclear threats.