

PRELIMS MANTRA – 15 (01/03/2025)

ISRO's Aditya-L1 mission unlocks solar flare secrets with new image:

- Solar Ultraviolet Imaging Telescope (SUIT) payload (on Aditya-L1, India's first dedicated space-based solar mission) has captured first-ever image of a solar flare 'kernel' in lower solar atmosphere - photosphere and chromosphere.
- Aditya-L1 mission was launched on September 2, 2023.
- On January 6, 2024, spacecraft was successfully placed in a large halo orbit around first Earth-Sun Lagrange Point, known as Lagrange Point L1, which is about 1.5 million km from Earth.
- A satellite placed in halo orbit around L1 point has major advantage of continuously viewing Sun without any occultation/eclipses.
- Four payloads directly view Sun and remaining three payloads carry out in-situ studies of particles and fields at Lagrange point L1.

Gold card Visa:

- It is new scheme of U.S. government to grant permanent residency or citizenship in exchange for investment in a country.
- It will replace the existing EB-5 visa for foreign investors.
- It will provide privileges of green card, and it will be a route to obtain American citizenship.

National Commission for Scheduled Castes:

- Established under Article 338 and works under the jurisdiction of Ministry of Social Justice and Empowerment.
- Provide safeguards against the exploitation of Scheduled Castes and Anglo-Indian communities.
- Commission shall consist of a Chairperson, a Vice-Chairperson, and three other Members appointed by the President by warrant under his hand and seal.
- Conditions of service and tenure of office shall be decided by the President.
- Constitution (Eighty-Ninth Amendment) Act, 2003 divided earlier National Commission for Scheduled Castes and Scheduled Tribes into National Commission for Scheduled Castes and National Commission for Scheduled Tribes (Article 338A).
- It has powers of a civil court and power to regulate its own procedure.
- Union and every State Government shall consult the Commission on all major policy matters affecting Scheduled Castes.

Wetland Extent Trends (WET) index:

- Created by UN Environment Programme – World Conservation Monitoring Centre (UNEP-WCMC).
- It is a tool that measures how the area of wetlands around the world has changed over time.
- It is published online in journal Biological Conservation.
- It is based on Living Planet Index, which is used to measure global trends in wild vertebrate species abundance.

Amir Khusrau:

- He served at least five Sultans — Muizzuddin Qaiqabad, Jalaluddin Khalji, Alauddin Khalji, Qutbuddin Mubarak Shah, and Ghiyasuddin Tughlaq.
- He wrote in Persian, language of court, as well as Hindavi.
- Sultan Jalaluddin Khalji bestowed upon Khusrau the title of 'Amir'.
- He was the most beloved disciple of Chishti Shaikh Nizamuddin Auliya.
- His poetry borrowed heavily from Persian and Turkic, as well as local influences, making him one of the most important figures in propagating a syncretic Hindu-Muslim culture — the so-called Ganga-Jamuni tehzeeb.

Melting of Arctic ice is releasing methane in atmosphere:

- A team of scientists have discovered that Arctic glaciers, glacial melt rivers and groundwater springs release large volumes of methane from beneath ice to atmosphere.
- Methane that was being released was not produced by microbial activity beneath ice. Rather it came from thermogenic sources — methane that had been trapped in region's ancient geological formations for millions of years
- Methane is one of main drivers of climate change, responsible for 30 per cent of the warming since preindustrial times, second only to carbon dioxide.
- Over 20 years, methane is 80 times more potent at warming than carbon dioxide.
- It is also primary contributor to the formation of ground-level ozone, a colourless and highly irritating gas that forms just above the Earth's surface.

Guduchi or Giloy:

- *Tinospora cordifolia*, commonly known as Guduchi or Giloy, familiar as Amrita in Sanskrit, which translates to the 'herb of immortality', because of its abundant beneficial properties.
- Research suggests that Giloy may have a significant role in cancer therapy, autoimmune disease management, and even inflammatory disorders.

Snow avalanche hit a Border Roads Organisation (BRO) project site at Mana village in Uttarakhand's Chamoli district.

PRACTICE MCQs

Q1. Consider the following statements about Amir Khusrau:

1. He was a court poet of Sultan Alauddin Khalji.
2. Sultan Jalaluddin Khalji bestowed upon Khusrau the title of 'Amir'.
3. He was the most beloved disciple of Chishti Shaikh Nizamuddin Auliya.

Which of the statements given above is/are correct?

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

Answer: C

Q2. Recently, U.S. government announced the 'Gold Card Visa'. It refers to –

- a) Visa with privileges of green card granted to foreigners in exchange of foreign investment into the country.

- b) Visa granted to sports persons for a global event in the country.
- c) Visa granted to diplomats of friendly nations.
- d) Visa granted to tourists for their extended stay in the country.

Answer: A

Q3. Which of the following statements is correct about Wetland Extent Trends (WET) index?

- 1. It is created by UN Environment Programme – World Conservation Monitoring Centre.
- 2. It is a tool to measure how much area is declared as Wetlands of International Importance under Ramsar Convention.

Select the correct answer using the code given below:

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

Answer: A

Q4. Consider the following statements about National Commission for Scheduled Castes:

- 1. It is a constitutional body working under Ministry of Social Justice and Empowerment.
- 2. It consists of a Chairperson, a Vice-Chairperson, and three other Members appointed by the Central Government.
- 3. It provides safeguards against the exploitation of Scheduled Castes and Anglo-Indian communities.
- 4. Union and every State Government shall consult the Commission on all major policy matters affecting Scheduled Castes.

How many of the given statements are correct?

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

Answer: C

Q5. Which of the following statements correctly describes the term 'Lagrange Point'?

- a) Location in the space beyond which earth's magnetic field is not effective.
- b) Position in the space where geostationary satellites are located.
- c) Endpoint of our solar system.
- d) Position in space where gravitational pull of two large masses precisely equals centripetal force required for a small object to move with them.

Answer: D



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