



C.A Dated On 02-05-2019

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New Fossil Evidence:

Why in News?

Analysis of a fossil jawbone containing molars recovered from Baishiya Karst cave in Xiahe, Gansu, China shows Denisovans lived in the Tibetan Plateau some 1,60,000 years ago.

The first evidence for Denisovans or Denisova hominins was first discovered in 2008 in a cave in the Altai mountains in Siberia.

This is the first time evidence of Denisovan presence has been found outside the Denisova cave.

Details:

- The mandible was so well preserved that it allowed for a virtual reconstruction of the two sides of the mandible (in photo, with mirrored parts in grey).
- Contrary to popular belief that high altitude regions were inhabited only by modern humans dating back to less than 40,000 years, the fossil remains conclusively prove that Denisovans lived in the Tibetan Plateau at an altitude of 3,280 metres much earlier — 1,60,000 years ago.
- The Denisova cave in Siberia is at an altitude of just 700 metres.

Earlier Studies:

- Previous genetic studies have found that modern humans living in the Tibetan Plateau carried a special gene variant — EPAS1 (Endothelial PAS Domain Protein 1) — that allowed them to cope with low oxygen (hypoxia) environments typical of high altitude.

- This gene variant has been found in Denisovans.
- Since the Denisova cave is at an altitude of just 700 metres, it was not clear why and how the Denisovans possessed this adaptation.
- The discovery of a Denisovan sample in the Tibetan plateau at a high altitude provides the answer.

Gene mutation

- The possible explanation for the presence of this gene variant in the hominin is that Denisovans lived for a long time in the plateau leading the gene mutation.
- This mutation has later been passed on to modern humans.

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Electoral Bond Scheme 2018

Why in News?

Government of India has now decided to restrict the next Phase of Electoral Bonds sale to 06.05.2019 to 10.05.2019 (instead of 06.05.2019 to 15.05.2019 scheduled and notified earlier).

What is it?

The Government of India has notified the Electoral Bond Scheme 2018 vide Gazette Notification No. 20 dated 02nd January 2018.

Who can buy it?

- As per provisions of the Scheme, Electoral Bonds may be purchased by a person (as defined in item No. 2 (d) of Gazette Notification), who is a citizen of India or incorporated or established in India. \
- A person being an individual can buy Electoral Bonds, either singly or jointly with other individuals.
- Only the Political Parties registered under Section 29A of the Representation of the People Act, 1951 (43 of 1951) and which secured not less than one per cent of the votes polled in the last General Election to the House of the People or the Legislative Assembly of the State, shall be eligible to receive the Electoral Bonds.

- The Electoral Bonds shall be encashed by an eligible Political Party only through a Bank account with the Authorized Bank.
- State Bank of India (SBI) has been authorized to issue and encash Electoral Bonds through its 29 Authorized Branches (as per list enclosed) in the month of May 2019.

Validity:

- The Electoral Bonds shall be valid for **fifteen calendar days** from the date of issue and no payment shall be made to any payee Political Party if the Electoral Bond is deposited after expiry of the validity period.
- The Electoral Bond deposited by an eligible Political Party in its account shall be credited on the same day.

Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Amendment Act of 2018

Why in News?

The [Supreme Court](#) on Wednesday reserved for judgment a batch of petitions challenging the Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Amendment Act of 2018 which nullified a controversial March 20 Supreme Court judgment diluting the stringent provisions of the Dalit protection law.

A Bench of Justices Arun Mishra and U.U. Lalit heard arguments raised by the Centre that the amendments were necessary as the SCs and the STs continue to face the same social stigma, poverty and humiliation which they had been subjected to for centuries.

Background:

- The 2018 Act nullified the March 20 judgment which allowed anticipatory bail to those booked for committing atrocities against the SCs and the STs. The original 1989 Act bars anticipatory bail.
- The apex court verdict saw a huge backlash across the country.
- Several died in ensuing protests and crores worth of property was destroyed.

- The government reacted by filing a review petition and subsequently amended the 1989 Act back to its original form.

Govt. Response:

- The government had responded that there had been no decrease in the atrocities committed on the SCs/STs despite the laws meant to protect their civil rights.
- "The SC/ST (Prevention of Atrocities) Act of 1989 is the least which the country owes to this section... who have been denied civil rights since generations," the Centre argued.

Salient features:

- It was enacted when the provisions of the existing laws (such as the Protection of Civil Rights Act 1955 and Indian Penal Code) were found to be inadequate to check these crimes (defined as 'atrocities' in the Act)
- Recognising the continuing gross indignities and offences against Scheduled Castes and Tribes, the Parliament passed the 'Scheduled Castes and Schedule Tribes (Prevention of Atrocities) Act 1989.
- The preamble of the Act also states that the Act is:

"to prevent the commission of offences of atrocities against the members of Scheduled Castes and Tribes, to provide for Special Courts for the trial of such offences and for the relief and rehabilitation of the victims of such offences and for matters connected therewith or incidental thereto."

- Thus objectives of the Act clearly emphasise the intention of the government to deliver justice to these communities through proactive efforts to enable them to live in society with dignity and self-esteem and without fear or violence or suppression from the dominant castes.
- The practice of untouchability, in its overt and covert form was made a cognizable and non compoundable offence, and strict punishment is provided for any such offence.

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Global Warming:

Why in News?

Glaciers are set to vanish from almost half of U.N.-designated World Heritage sites in less than a century if greenhouse gas emissions are not cut, according to research published in the journal *Earth's Future*.

Sites likely to be affected include the Grosser Aletschgletscher in the Swiss Alps and Greenland's Jakobshavn Isbrae, researchers said in a study released this week.

Wake-up call

- The data should act as a wake-up call for nations to step up their commitments to prevent climate change, said the [International](#) Union for Conservation of Nature (IUCN), which collaborated with the University of Fribourg on the study.
- Climate change is becoming one of the most significant risks for World Heritage sites, according to a report released by the United Nations cultural body, UNESCO, in 2016.
- Researchers plotted glaciers at World Heritage locations — identifying a total of some 19,000 over 46 sites — and used data modelling to predict ice loss based on how much carbon dioxide and other greenhouse gases the world emits between now and 2100.
- They found that well-known beauty spots, including the Los Glaciares National Park in Argentina, the Canadian Rocky Mountain Parks and Te Wahipounamu in South West New Zealand are expected to lose much of their ice.
- Nearly half the World Heritage sites — 21 out of a total of 46 that have glaciers — will lose all their ice by 2100 under a high emissions scenario, they found.
- Even under a low-emissions model, eight of the sites will be ice-free by the start of the next century, the report said.

Falling volume

- The research found significant melting is expected in all scenarios, with between 33% and 60% of the total ice volume in 2017 lost by 2100.

The findings should highlight the threat posed by global warming said Matthias Huss, one of the researchers on the study and the lead at the Glacier Monitoring Network at the University of Fribourg in Switzerland.

Chandrayaan-2

Why in News?

India's much-delayed second lunar mission, Chandrayaan-2, has got yet another launch window.

The mission is now set to be launched any time between July 5 and July 16 this year.

The moon landing is likely to be around September 6, 2019, nearly two months after the launch, close to the lunar South Pole, the Indian Space Research Organisation (ISRO) said.

Global plans

- The lunar South Pole is believed to contain ice and other minerals, and international space expedition plans are hotting up with NASA planning to land astronauts there by 2024, while China reportedly plans to build a scientific research station on the lunar South Pole within the next decade.

3 modules

- Chandrayaan-2 is a fully-indigenous mission that comprises three modules — an Orbiter, a Lander named 'Vikram', and a Rover named 'Pragyan' — and will be launched on board a GSLV-MkIII rocket.
- The GSLV-MkIII is a three-stage heavy lift launch vehicle that has been designed to carry four-tonne class satellites into Geosynchronous Transfer Orbit (GTO).
- The Chandrayaan-1 mission was launched on board a PSLV.



About Chandrayaan:

- The Chandrayaan-2 weighs around 3,290 kg, according to ISRO.

- It would orbit around the moon and carry out remote sensing of the moon.
- "The payloads will collect scientific information on lunar topography, mineralogy, elemental abundance, lunar exosphere and signatures of hydroxyl and water-ice," says ISRO.

Integrated module

- The Orbiter and the Lander will be stacked together as an integrated module, while the Rover will be housed inside the Lander.
- According to ISRO, once the Orbiter reaches the 100 km lunar orbit, the Lander will separate from it and ISRO will carry out a controlled descent at a specific site and deploy the Rover.
- The six-wheeled Rover will "move around the landing site in semi-autonomous mode as decided by the ground commands.
- The instruments on the rover will observe the lunar surface and send back data, which will be useful for analysis of the lunar soil.