

19th Sept,22



Daily News Juice

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THE HINDU

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What is Ethereum 'Merge'?

Relevance: Prelims & Mains Paper III; S&T

Ethereum

- Ethereum is **the world's second most valuable cryptocurrency** after Bitcoin.
- Popular applications of cryptocurrencies such as **non-fungible tokens (NFTs)** and **Decentralized finance** are based on the Ethereum network.
- **Decentralized finance** (DeFi) represents a novel way of providing financial services that cuts out traditional centralized intermediaries and relies on automated protocols instead.

Ethereum 'Merge'

- It is the **software overhaul** of the Ethereum blockchain which will provide two major benefits:
 1. Enhance the **security** of transactions in Ethereum blockchain.
 2. **Almost entirely cut down the carbon footprint** involved in validating transactions.
- Major software overhauls planned in future:
 1. **Surge**
 2. **Verge**
 3. **Purge**
 4. **Splurge**

What is Ethereum 'Merge'?

Relevance: Prelims & Mains Paper III; S&T

Old System before software revamp

- Ethereum is a decentralized cryptocurrency, meaning that it **does not have institutions like banks approving the transactions** that happen on its network.
- The approvals were earlier happening under the called **'proof-of-work' (PoW) consensus mechanism** which was essentially done by **miners**.
- Miners would compete to solve complex mathematical puzzles using a massive infrastructure of cutting edge computer hardware, and the first one to solve the puzzle would be chosen as the validator.
- The massive mining computer infrastructure, popularly called crypto farms, are **energy guzzlers**, leading to one of the biggest criticisms of the crypto industry that they sometimes consumed more electricity than entire countries

New System

- The Ethereum blockchain has now shifted to a **'proof-of-stake' (PoS) mechanism** that assigns **'validators' randomly to approve transactions and earn a small reward**.
- This would entirely eliminate the need for miners on the Ethereum network.
- The move to PoS will **reduce Ethereum's energy consumption by nearly 99.95 per cent** and will make it more secure

Q1. What is Ethereum Merge?

- (a) It is the mergers of popularly cryptocurrencies with Ethereum.
- (b) It is the merger of all NFT platforms with Ethereum blockchain.
- (c) It is the replacement of traditional chain with new means of validating transactions.
- (d) It is the new name adopted by Ethereum to showcase its open ended API platform.

Deadline extended for installing Pollution control equipment at coal fired power plants

Relevance: Prelims & Mains Paper III; Environment

Notification

- The country's first emission norms for control of sulphur dioxide (SO₂), nitrogen oxides (NO_x) and mercury (Hg) from coal-fired power plants were notified in December 2015.
- The thermal plants were initially given a timeline of December 2017 to comply.
- The timelines have been extended third time now.

Categorization

- The Ministry set up three different timelines for three categories of thermal power plants for ensuring installation of pollution-control technologies.
- The categorization of power plants was done in April 2021 on the basis of an amendment to The Environment (Protection) Act, 1986.

Three fold categorization

1. Power plants **within a 10 km radius of Delhi-NCR and million plus cities**
 - Deadline extended to **December 31, 2024** from the earlier deadline of December 31, 2022.
2. **Power plants within a 10 km radius of critically polluted cities**
 - Deadline extended to **December 31, 2025** from the earlier December 31, 2023.
3. **Remaining power plants**
 - Earlier deadline of December 31, 2024, extended to **December 31, 2026**.

Desulfurisation

- A thermal power plant **converts heat energy into electric power** by burning fossil fuels (coal) and pumps out a lot of gases which are by-products of the burning.
- Along with **carbon dioxide**, thermal power plants **release SO₂** (sulphur dioxide) which is a major contributor to **particulate matter** in air pollution.
- **The process of eliminating sulphur compounds from the exhaust emissions of fossil-fuelled (coal-fired) power plants is known as flue gas desulfurisation (FGD).**
- This is accomplished by including **absorbent materials**, which can eliminate up to 95% of the sulphur from the flue gas by scrubbing.

Status of Desulfurisation

- **Seven years since the first notification** for thermal power plants to control the emission level of SO₂ within prescribed standards, the percentage of plants that have **installed FGDs remains negligible**.
- Data from Central Electricity Authority (CEA) points out that till February 2021, of the total thermal power of 211.6 GW (giga watt) across 600 units installed in the country, only 8.2 GW (across 20 units) have installed FGDs.

Challenges in installation of FGD

- Minimum time period required for FGD commissioning of **36-42 months**
- **Limited availability of vendors** for FGD commissioning
- **High prices** due to limited availability of components

Process of inclusion/exclusion from the Scheduled Tribes list

Relevance: Prelims & Mains Paper II; Polity & Governance

Communities approved for ST list

- The following communities have been included by Union cabinet to be included in ST list:
 1. **Hatti tribe** in the Trans-Giri area of **Sirmour district in Himachal Pradesh**
 2. **Hill tribes** of **Narikoravan and Kurivikkaran of Tamil Nadu**
 3. **Binjhia community in Chhattisgarh**
 4. **Gond community** in certain districts of **Uttar Pradesh**
- Also, Cabinet has **approved the addition of several alternative names** for already existing Scheduled Tribes in **Chhattisgarh and Karnataka**.

Process to add or remove community from SC, ST List

1. A **State government may choose to recommend certain communities** for addition or subtraction from the list of SCs/STs based on its discretion. This **recommendation may come from studies it commissions** like in the case of classifying the Hatti community in Himachal Pradesh.
2. Following this, the **proposal** to include or remove any community from the Scheduled List is sent to the **Union Ministry of Tribal Affairs** from the concerned State government.
3. After this, the Ministry of Tribal Affairs, through its own deliberations, examines the proposal, and **sends it to the Registrar General of India (RGI)**.
4. **Once approved by the RGI, the proposal is sent to the National Commission for Scheduled Castes or National Commission for Scheduled Tribes.**

Process of inclusion/exclusion from the Scheduled Tribes list

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Process to add or remove community from SC, ST List

5. Thereafter, the proposal is **sent back to the Union government**, which after inter-ministerial deliberations, introduces it in the **Cabinet** for final approval.

6. Thereafter, a **Bill** was introduced in Parliament. The bill is required to be passed by both the houses.

7. **President assents to a Bill that amends the Constitution (Scheduled Castes) Order, 1950 and the Constitution (Scheduled Tribes) Order, 1950**, as is appropriate.

8. The final step rests with the President's office issuing a **notification** specifying the changes under powers vested in it from **Articles 341 (SC) and 342 (ST)**.

Criteria to identify ST Community

1. Ethnological traits,
2. Traditional characteristics
3. Distinctive culture
4. Geographical isolation
5. Backwardness

According to the Scheduled Tribes in India as revealed in **Census 2011**, there are said to be **705 ethnic groups** listed as Scheduled Tribes under Article 342.

Over 10 crore Indians are notified as STs, of which **1.04 crore live in urban areas**. The **STs constitute 8.6% of the population and 11.3% of the rural population**.

Q2. Consider the following statements about the process to include a particular community into list of Scheduled Tribes (ST):

1. The inclusion can take place without the role of houses of Parliament, by means of executive order.
2. Usually, the process to include a community into list of ST begins with a state government.
3. Narikoravan is a hill tribe in Tamil Nadu.

Which of the statements given above is/are correct?

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

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