

1. Why scientists were surprised to find life under Antarctic ice shelf**Why Now?**

A team of scientists has discovered dozens of new species, including giant sea spiders, octopi, and corals on the newly exposed seafloor left behind by the enormous A-84 iceberg that broke away from the George VI Ice Shelf on January 13.

The break-away of the 510-sq-km iceberg — around two-and-a-half times the size of Kolkata — gave access to an underwater world that was previously beyond human reach. A remotely-operated submersible got to the seafloor on January 25, where it captured photos and videos, and collected specimens.

Challenger 150

The mission was part of Challenger 150, a UNESCO-endorsed global initiative for deep-sea research. The discoveries were announced recently. The findings provide new insights into how ecosystems function beneath floating sections of the Antarctic ice.

**Life under the ice**

Using the remotely operated vehicle (ROV) SuBastian, scientists explored the seafloor for eight days, and found flourishing ecosystems at depths of up to 1,300 metres.

Their observations include large corals and sponges supporting an array of animal life such as icefish, giant sea spiders, and octopi. They also found a giant phantom jelly, a species of jellyfish that can grow up to a metre wide, and a vase-shaped sponge that might be hundreds of years old. Scientists said they may have discovered several new species.

Mystery behind Life's Existence

The reason scientists were surprised to find diverse ecosystems under the ice shelf is that deep-sea communities typically depend on photosynthesising organisms to rain down nutrients from the surface to the seafloor. However, these Antarctic ecosystems have been covered by 150-metre-thick ice for centuries, completely cut off from surface nutrients.

Scientists have hypothesized that ocean currents, glacial meltwater or something else could be transporting essential nutrients, sustaining life beneath the ice shelf. The precise mechanism fueling these ecosystems is yet to be understood.

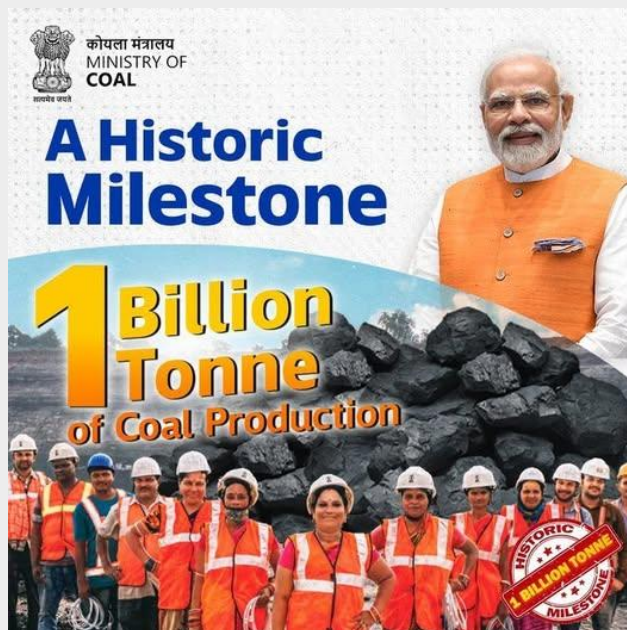
Relevance: GS Prelims & Mains Paper II; International Relations

Source: Indian Express

2. Coal Production in the Country Crosses One Billion Tonne Mark

Introduction

India has achieved a momentous milestone in coal production, surpassing one billion tonnes (BT) on March 20, 2025, in the fiscal year 2024-25. This remarkable achievement comes 11 days ahead of last fiscal year's coal production of 997.83 million tonnes (MT). Apart from China, India is the only country to cross 1 billion tonnes mark in annual coal output.



Importance of Coal

India relies on coal for approximately 55% of its energy mix, and around 74% of the country's electricity is generated by coal-based power plants. This underscores the critical importance of coal in powering India's economy and sustaining energy security.

Entry of Private Sector

The record-breaking coal production reflects the Government's strategic reforms and policies, such as amendments to the Mines and Minerals (Development and Regulation) Act and the opening of the coal sector to private players through the commercial auctioning of coal blocks.

Less Reliance on imports

These initiatives have led to a marked increase in the availability of domestic coal, progressively substituting imports and significantly contributing to foreign exchange savings. From April to December 2024, India's coal imports declined by 8.4%, resulting in forex savings of around \$5.43 billion (₹42,315.7 crore) as compared to the same period of last year.

Relevance: GS Prelims; Economics

Source: PIB

3. Form 17C and details included in it

Background

Opposition Parties demand the publication of the first part of Form 17C, which includes booth-wise voter turnout data, on the Election Commission of India's (EC) website, within 48 hours of polling.

What is Form 17C?

The Conduct of Election Rules, 1961 mandates that a two-part form, recording voter turnout and vote count, is filled for every polling station.

Part 1 of Form 17C

Part 1 of Form 17C is the Account of Votes Recorded, and is filled in by the presiding officer of each polling station, with a true copy to be furnished to every polling agent present at the close of the poll. It includes the identification number of the Electronic Voting Machine (EVM) used in that polling station, the total number of electors assigned to that polling booth, the number of votes cast as per the EVM and so on.

The presiding officer, as well as every polling agent present are required to sign and validate this form, before it is placed in a sealed cover and transported to the returning officer, along with the EVM, to be held until the day of counting.

[FORM 17C
[See rules 49S and 56C(2)]]

PART I.—ACCOUNT OF VOTES RECORDED

Election to House of the People/Legislative Assembly of the State/Union territory.....
fromConstituency.

Number and Name of Polling Station :
Identification Number of voting machine used at the Polling Station :

control unit
balloting unit
Printer (if used)

1. Total number of electors assigned to the Polling Station
2. Total number of voters as entered in the Register for Voters (Form 17A)
3. Number of voters deciding not to record votes under rule 49-O
4. Number of voters not allowed to vote under rule 49M
5. Test votes recorded under rule 49MA (d) required to be deducted—
 - (a) total number of test votes to be deducted :

Total No.	Sl. No.(s) of elector(s) in Form 17A
.....
 - (b) candidates(s) for whom test vote(s) cast :

Sl. No.	Name of candidate	No. of votes
.....
.....

1. Ins. by Notifin. No. S.O. 230(E), dated the 24th March, 1992.
2. Subs. by Notifin. No. S.O. 2470(E), dated the 14th August, 2013.

Part 2 of Form 17C

On counting day, Part 2 of Form 17C, titled the Result of Counting, is filled in by the returning officer. It includes the names of each candidate and the number of votes recorded in favour of each of them, as seen when the "result" button is pressed on the EVM. The returning officer must also state "whether the total number of votes shown above tallies with the total number of votes shown against item 5 of Part 1 [which is the number of votes cast as per the EVM on the day of polling] or any discrepancy noticed between the two totals." Part 2 is signed by the returning officer, the counting supervisor, and each candidate or their counting agents.

Relevance: GS Prelims & Mains Paper II; Governance

Source: Indian Express

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