

An aerial photograph of a winding asphalt road that curves through a dense, lush green forest. Several cars are visible on the road, including a white car, a blue car, and a dark car. The road has white dashed lines marking the lanes. The overall scene is captured from a high angle, looking down on the road and the surrounding trees.

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# DAILY NEWS DECODE

11.10.21



# VYZOV



- Sixty years after the Soviet Union beat its rival superpower United States to become the first state to send a human into space, its successor Russia has trumped the US in another kind of space race — shooting the first feature film in orbit
- Actor Yulia Peresild and director Klim Shipenko travelled to International Space Station (ISS) in a Soyuz MS-19 aircraft to film about 35 to 40 minutes of footage from the movie titled *Vyzov*, or *The Challenge*.
- With them was veteran cosmonaut Anton Shkaplerov.
- *Vyzov* is about a cosmonaut who loses consciousness after being hit by space debris in the middle of a spaceflight.
- It is the first feature-length fiction film shot in outer space.

# FIRST PILOT PLANT TO CONVERT HIGH ASH COAL TO METHANOL DEVELOPED



- India has developed an indigenous technology to convert high ash Indian coal to methanol and established its first pilot plant in Hyderabad.
- This technology will help the country move towards the adoption of clean technology and promote the use of methanol as a transportation fuel (blending with petrol), thus reducing crude oil imports.
- The broad process of converting coal into methanol consists of conversion of coal to synthesis (syngas) gas, syngas cleaning and conditioning, syngas to methanol conversion, and methanol purification.

- **Coal to methanol plants in most countries are operated with low ash coals.**
- **Handling of high ash and heat required to melt this high amount of ash is a challenge in the case of Indian coal, which generally has high ash content.**
- **In order to overcome this challenge, Bharat Heavy Electricals Limited (BHEL) has developed the fluidized bed gasification technology suitable for high ash Indian coals to produce syngas and then convert syngas to methanol with 99% purity.**
- **This pilot-scale project with a methanol generation capacity of 0.25 metric tons per day has been initiated by NITI Aayog and funded by the Department of Science and Technology (DST) under Clean Energy Research Initiative.**



# BANGLADESH NUCLEAR POWER



- The government of Bangladesh is planning to set up its second nuclear power plant in the southern region of the country.
- Rooppur is the first nuclear power plant of Bangladesh being built with financial and technological support from Russia. The 2400 megawatt Rooppur nuclear power plant is expected to become functional by 2024.
- India is assisting Bangladesh through a concessional line of credit worth about USD 1 billion in the construction of transmission line and power evacuation facility from the Rooppur nuclear power plant.

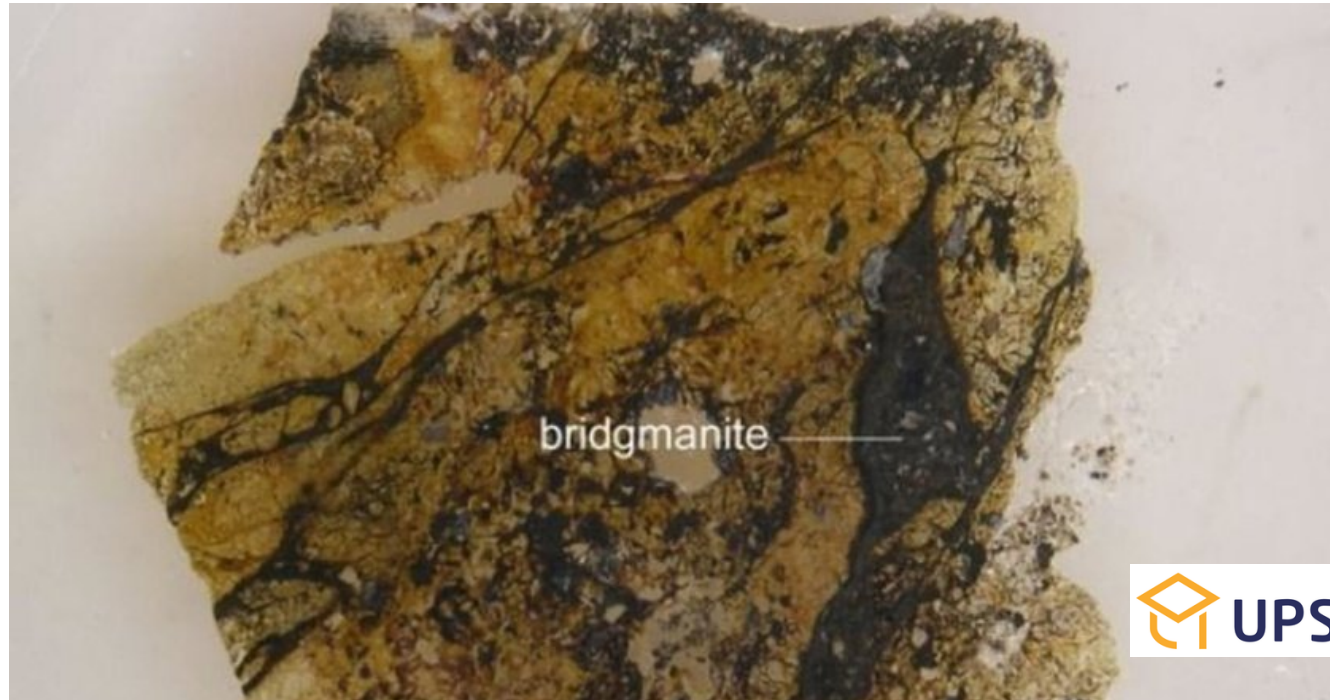
# SINDHUDURG AIRPORT



- Civil Aviation Minister, Jyotiraditya Scindia inaugurated the Greenfield Sindhudurg airport in Maharashtra under the UDAN scheme.
- The first flight connecting Sindhudurg with Mumbai under the RCS-UDAN (Regional Connectivity Scheme-Ude Desh Ka Aam Naagrik) was also flagged off on the occasion.
- Sindhudurg airport in the Sindhudurg district of Maharashtra is popularly also known as Chipi Airport.
- Sindhudurg, Maharashtra lies in the southern part of 'Konkan'.
- The district is named after the fort of Sindhudurg meaning "fort in the sea", which lies on a rocky island just off the coast of Malvan.

- **The Konkan region consists of numerous riverine islands, river valleys, and the hilly slopes of the Western Ghats. Geographically, Konkan is bound by the Arabian Sea to the west and the Deccan plateau to the east.**
- **The Konkan coast proceeds from the north at Damaon in the Gulf of Cambay and extends southwards along with the western seaside areas of Maharashtra and Goa. It meets the Canara coast at the northern edge of Karwar district in Karnataka.**

# BRIDGMANITE



- On May 22, 2012, a large meteor shower occurred near the town of Katol in Nagpur.
- Initial studies revealed that the host rock was mainly composed of olivine, an olive-green mineral. Olivine is the most abundant phase in our Earth's upper mantle.
- Now, by studying the composition of these meteorite fragments, researchers have unravelled the composition expected to be present in the Earth's lower mantle which is at about 660 km deep.
- The research paper published reports the first natural occurrence of a mineral called bridgmanite. The mineral was named in 2014 after Prof. Percy W. Bridgman, recipient of the 1946 Nobel Prize in Physics.



- **Various computational and experimental studies have shown that about 80% of the Earth's lower mantle is made up of bridgmanite. By studying this meteorite sample, scientists can decode how bridgmanite crystallized during the final stages of our Earth's formation.**

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# QUANTUM COMMUNICATIONS



- The Quantum Communication Lab was inaugurated at Centre for Development of Telematics (C-DOT).
- The indigenously developed Quantum Key Distribution (QKD) solution by C-DOT was also unveiled which can support a distance of more than 100 kilometers on standard optical fiber.
- Quantum Technologies can broadly be divided into four verticals viz. Quantum Computing, Quantum Communications, Quantum Sensors and Quantum Materials.
- To comprehensively address all these verticals and leapfrog India in this crucial & niche area, India has launched National Mission on Quantum Technologies & Applications (NM-QTA).



- **This was announced by Finance Minister in her budget speech delivered in February 2020.**
- **This initiative, with a budget of more than USD 1 Billion spanning over eight years, will be led by Department of Science and Technology (DST) and will have active participation from various other ministries e.g. Department of Telecommunications, Department of Space, Department of Atomic Energy etc.**
- **Centre for Development of Telematics (C-DOT), a premier telecom research & development organization under Department of Telecommunications, Government of India, is leading the effort in the Quantum Communications vertical of NM-QTA.**

# LONG HAUL TRAINS



- **Indian Railways has successfully operated two long haul freight trains "Trishul" and "Garuda" for the first time over South Central Railway(SCR).**
- **Long haul trains, which are twice or multiple times longer than the normal composition of freight trains, provide a very effective solution to the problem of capacity constraints in critical sections.**
- **Trishul is SCR's first long haul comprising of three freight trains, i.e., 177 wagons. This train was started on 07.10.2021 from Kondapalli station of Vijayawada division to Khurda division of East Coast Railway.**



- **SCR followed it up with running of yet another similar one named Garuda on 08.10.2021 from Raichur of Guntakal division to Manuguru of Secunderabad division.**
- **In both the cases the long haul trains comprised of empty open wagons for loading of coal meant for predominantly thermal power stations.**

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# **Giloy or Guduchi (*Tinospora cordifolia*)**



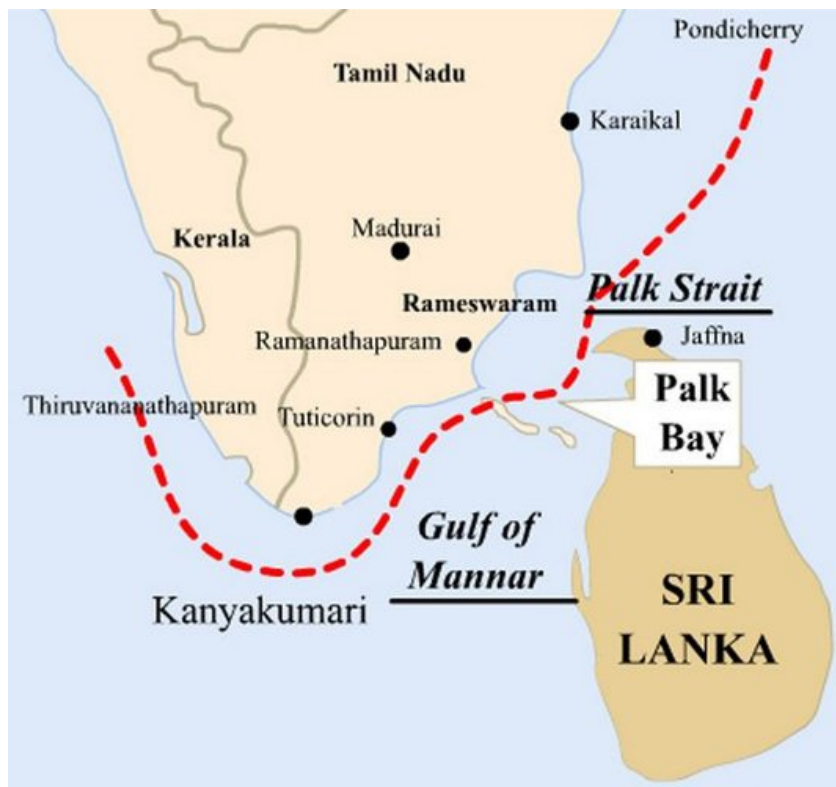
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- **Recently the Ministry of Ayush has clarified that Giloy (*Tinospora cordifolia*) herb is safe to use but similar looking plants in circulation such as *Tinospora crispa* can be harmful.**
- **The Ministry had recently noticed safety concerns on use of Guduchi that were published in social media and in some scientific journals.**
- **Giloy is a climbing shrub and an essential herb in Ayurvedic medicine.**
- **All its parts are thought to have health benefits.**
- **It has been used to treat a wide range of issues, including fever, infections, diarrhoea and diabetes.**



- It has got many hepato-protective (prevent damage to liver) properties.
- The Ministry has a well-established system of Pharmacovigilance (for reporting of suspected adverse drug reactions from Ayush medication).
- It is reiterated that Guduchi is safe and effective but it is advisable to use it in consultation with a qualified, registered Ayush physician.

# Palk Bay scheme



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- The Union Government is considering increasing the unit cost of deep-sea fishing vessels under the Palk Bay scheme to make it more attractive to fisherfolk.
- Currently under the Pradhan Mantri Matsya Sampada Yojana (PMMSY), the unit cost of deep-sea fishing vessels has been fixed at ₹1.2 crore.
- The Palk Bay Scheme is the official scheme for diversification of trawl fishing boats from Palk Strait into deep sea fishing boats.
- It was launched by the Prime Minister in July 2017.
- It is aimed at encouraging fishermen to take up deep-sea fishing and put an end to disputes arising between India and Sri Lanka.
- The project helps fishermen in the Palk Straits, who are not exposed to deep-sea fishing, to venture deep into the Indian Ocean, Arabian sea and other deep-sea areas to look for fish that are in high demand.



- **The project aims to replace all trawler boats and introduce over 2,000 deep sea fishing boats in a course of three years.**
- **The scheme is not part of PMMSY.**
- **The Funding pattern of the scheme is Centre 50%, State 20%, Institutional funding 10% and Beneficiary 20%.**
- **It proposes to only grant licenses to vessels registered under the Merchant Shipping Act, 1958, to fish in the Exclusive Economic Zone (EEZ).**
- **It puts the Indian Coast Guard (ICG) in charge of Monitoring Control and Surveillance (MCS).**
- **It has proposed punishments for fishermen breaching the EEZ without a licence, not complying with ICG orders, and obstructing ICG officials.**
- **It aims to protect Indian fishermen if there is any illegal activity by a foreign fishing vessel.**