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Subject: POLITY and NATION

Electoral Bonds and Electoral Trusts

Why in the News?

The Supreme Court has reserved its judgment on the challenge to the Electoral Bonds Scheme. Before this Electoral Bonds (EB) Scheme, there was something called an Electoral Trusts (ET) Scheme which was introduced in 2013.

What is the Electoral Trusts (ET) Scheme?

What are the basic do's and don'ts related to contributions to Electoral Trusts?

Below is the table containing the basic do's and don'ts related to contributions to Electoral Trusts:

May receive contributions from	Shall not accept contributions from
An individual who is a citizen of India	An individual who is not a citizen of India
A company registered in India	A foreign entity whether incorporated or not
A firm (resident in India)	Other Electoral Trusts (approved under the Electoral Trusts Scheme)
HUF(Indian residents)	Contributors without PAN
An association of persons (Indian residents)	NRIs without a passport number

Source: ADR

Electoral Trusts (ET) is a Trust set up by companies with the sole objective to distribute the contributions received by it from other Companies and individuals to the political parties.

2. It was introduced through 'The Electoral Trusts Scheme, 2013'.

Who can set up Electoral Trusts?

1. Only such companies are eligible to make an application for approval as an Electoral Trust which is registered under section 25 of the Companies Act, 1956.
2. The electoral trusts have to apply for renewal every three financial years.

Mechanism of distribution of funds by Electoral Trusts:

1. For administrative expenses, the Electoral Trusts are permitted to set aside a maximum of 5% of the total funds collected during a financial year, along with any surplus carried forward from the previous financial year.
2. The remaining 95% of the total income of the Trusts, including any surplus from the previous financial year, is required to be distributed to eligible political parties.

What is the difference between Electoral Bonds and Electoral Trusts (ET)?

Difference	Electoral Bonds Scheme	Electoral Trusts Scheme
Introduced in	2018	2013
Purpose	To facilitate donations to political parties by corporates and individuals.	To facilitate donations to political parties by corporates and individuals.
Transparency	1. It is exempt from disclosure requirements . 2. The government argues that this lack of transparency in donations through EBs is to maintain the privacy of donors.	1. It is transparent on contributors and beneficiary's front . 2. It mandates to submit a report to the Election Commission of India on contributions from individuals and companies, and their donations to parties every year.

UGC notifies norms for setting up campuses by foreign universities

Why in the News?

University Grants Commission (UGC) has notified the regulations for foreign universities to set up and operate their campuses in India.

What are the key regulations notified by UGC for setting up foreign universities campuses in India?

THE REQUIREMENTS

<ul style="list-style-type: none"> ■ Universities should have secured position within top 500 in global rankings ■ Obtain prior permission under FCRA ■ Cannot open learning centres, study centres or franchises of parent entity 	<ul style="list-style-type: none"> ■ Require UGC approval before starting new courses ■ Cannot offer online courses, distance learning ■ Autonomy to recruit faculty ■ Can set up more than one campus in India
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Source: Business Standard

Specifications	Details

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Eligibility Criteria	<ol style="list-style-type: none"> 1. It must be ranked among the top 500 universities in the world according to a list approved by the University Grants Commission (UGC). 2. It must be ranked among the top 500 universities in a specific subject according to a list approved by the UGC. 3. It must have exceptional expertise in a particular field, as determined by the UGC.
Application Process	<ol style="list-style-type: none"> 1. The application should be submitted on the UGC portal. 2. The UGC will then form a Standing Committee to examine the application. 3. The recommendations of the Standing Committee shall be placed before the UGC within a period of 60 days from the date of receipt of the application.
Foreign Contributions	In case a Foreign University wants to receive or utilize foreign contributions, it will have to obtain registration or prior permission under the Foreign Contribution (Regulation) Act, 2010.
Setting up of campus	<ol style="list-style-type: none"> 1. Two or more than two universities can collaborate to set up campuses in India, provided each institution meets the eligibility criteria individually. 2. Each foreign university can set up more than one campus in India. However, they shall make a separate application for each proposed campus to the UGC.
Programmes and courses	<ol style="list-style-type: none"> 1. No programmes can be offered online or in Open and Distance Learning modes. However, lectures in online mode not exceeding 10% of the programme requirements are allowed. 2. The foreign universities are not allowed to open learning centers, study centres or franchises that may act as representative offices of the parent entity.
Faculty	Foreign universities shall have autonomy to recruit faculty and staff as per their recruitment norms.
Fee Structure	Foreign Universities can decide their fee structure. But the regulations suggest they provide “free concession” to Indian citizens.

Illegal Betting: Government bans 22 Illegal betting apps

Why in the News?

The Ministry of Electronics and Information Technology (MeitY) has issued blocking orders against 22 illegal betting apps and websites, including the Mahadev online betting platform.

What is Online Betting?

Online betting or gambling means using the internet to place bets and earn money. It is held in a virtual environment. This includes playing poker, casinos and sports betting.

Specifications	Details
Public Gambling Act of 1867	<ol style="list-style-type: none">1. It is a Central law. It says that any gambling that involves the act of putting money or betting for money, or any other equivalent act is illegal.2. It prohibits running or operating public gaming houses. Any violation of the law under this act could attract a fine of Rs.200 or imprisonment of up to three months.3. However, it is an old law and is ill-equipped to handle the challenges of digital casinos, online gambling and gaming.
Legal Basis for ban on Online Betting	A ban on online betting is issued under Section 69A of the Information Technology Act 2000.
State Jurisdiction	Gambling in India is largely a state subject under 7th Schedule of the Constitution. This means states are expected to create their own laws to regulate gambling in their jurisdictions.
State Laws	<ol style="list-style-type: none">1. States like Delhi, Madhya Pradesh, and Uttar Pradesh have adopted the Public Gambling Act with some amendments.2. Other regions, like Goa, Sikkim, Daman, Meghalaya, and Nagaland, have drafted specific laws to regulate public gambling in their jurisdictions.3. States like Telangana have banned all forms of online gaming and gambling through an amendment to The Telangana Gaming Act.

Central Consumer Protection Authority

Why in the News?

The Central Consumer Protection Authority (CCPA) has sent notices to 20 IAS coaching institutes across the country for issuing “misleading” advertisements.

What is the Central Consumer Protection Authority?

What is it?	Central Consumer Protection Authority is a regulatory authority set up under Section 10(1) of the Consumer Protection Act, 2019
Mandate	Keep a check on matters affecting the rights of consumers? Protect the consumer's interest, from individuals or entities that follow improper trade practices or display inappropriate or wrong advertisements.
Composition	Central Consumer Protection Authority shall consist of following members appointed by Central Government 1. Chief Commissioner 2. Two Commissioners - One commissioner will represent goods, the other will represent services.
Important Powers	1. Inquire on the violation of customer rights either by Suo-moto, on complaint or when referred to by central govt. 2. The commission can directly discontinue advertisements which are wrong or misleading to consumers and impose penalties up to Rs 10 lakhs payable in cash.

What is the Consumer Protection Act, 2019?

What is it?	Consumer Protection Act, 2019 replaces the Consumer Protection Act, 1986.
Objective	It focuses on giving more powers to the customer by strengthening trade transparency.
Consumer Rights under this act	1. Protection against marketing of goods and services which are hazardous to life and property. 2. Right to be informed on the quality, quantity, potency, purity, standard and price of goods and services. 3. Assurance of access to a variety of goods or services at competitive prices. 4. Redressal against unfair and restrictive trade practices. 5. Right to receive adequate compensation or consideration from respective consumer forums. 6. Right to receive consumer education

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Important provisions of Consumer Protection Act, 2019	<ol style="list-style-type: none">1. The Act establishes consumer protection councils to protect the rights of the consumers at both the national and state levels.2. The Consumer Protection Act has made it mandatory for every e-commerce entity to display the country of origin.3. Consumer Disputes Redressal Commission: CDRCs will be set up at the district, state, and national levels.4. Product Liability: A manufacturer or product seller will be held responsible to compensate for injury or damage caused by defective product or deficiency in services5. Punishment for Manufacture or Sale of defected or adulterated Goods– In case of the first conviction, a competent court may suspend any licence issued to the person for a period of up to two years and in case of second or subsequent conviction, may cancel the licence permanently.
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Broadcasting Services (Regulation) Bill, 2023

Why in the News?

The Union Ministry of Information and broadcasting has invited comments on the Broadcasting Services (Regulation) Bill, 2023.

What are the Broadcasting Services (Regulation) Bill, 2023?

Aim: To provide a consolidated framework to regulate the broadcasting services in the country.
Replaces: Cable Television Networks (Regulation) Act of 1995.

Key Provisions of the Bill:

Specifications	Details
Expanded regulatory scope	It extends its regulatory purview to cover broadcasting over-the-top (OTT) content and digital news and current affairs currently regulated through IT Act, 2000.
Regulatory bodies	<ol style="list-style-type: none">1) Establishes 'Content Evaluation Committees' for self-regulation.2) Introduces a 'Broadcast Advisory Council to advise the central government on violations of program and advertisement codes.
Penalties	<ol style="list-style-type: none">1) Prescribes penalties such as advisory, warning, censure, or monetary penalties for operators and broadcasters.2) Reserves imprisonment and/or fines for severe offenses, like obtaining registration with a false affidavit.

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Equitable Penalties	Links monetary penalties and fines to the financial capacity of the entity, considering their investment and turnover for fairness and equity.
Accessibility for Persons with Disabilities	1) Promotes the use of subtitles, audio descriptors, and sign language. 2) Establishes a provision for appointing a “Disability Grievance Officer.”
Infrastructure sharing	Introduces provisions for infrastructure sharing among broadcasting network operators.
Dispute resolution	Establishes a structured dispute resolution mechanism.

Indian Institute of Management (Amendment) Bill, 2023

Why in the News?

Parliament had recently passed the Indian Institute of Management (Amendment), Bill 2023.

What is Indian Institute of Management (Amendment), Bill 2023?

Aim: To amend the Indian Institutes of Management Act, 2017.

Key Provisions of the bill:

Specifications	IIM Act,2017	IIM Bill,2023
Visitor	-	President of India is the Visitor of every Institute covered by the Act
Appointment of IIM Directors	Appointed by the Board of Governors, based on the recommendations of a Search-cum-Selection Committee.	Board to obtain the prior approval of the Visitor before appointing an Institute Director.
Appointment of the Chairperson of the Board of Governors	Appointed by the Board	The Chairperson of the Board will be nominated by the Visitor.
Dissolution of the Board	-	The central government may prescribe the conditions and procedure for dissolving or suspending an Institute’s Board.

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Inquiries against IIMs	The Board can initiate an inquiry against an Institute if it has not been functioning in accordance with the Act. A retired High Court judge conducts such inquiries.	It confers the power of inquiry upon the Visitor. The Visitor may appoint people to review the work of any Institute and hold inquiries into its affairs.
Co-ordination Forum	The Act provides for a Coordination Forum for all the Institutes. These forums are established to facilitate coordination among all institutes in order to attain common policy objectives. The Chairperson of the Forum is selected by a Search-cum-Selection Committee, constituted by the Forum	The bill provides that the Chairperson of the forum will be nominated by the Visitor.

‘AANA Dashboard for Cities’ portal launched

Why in the News?

The Ministry of Housing and Urban Affairs (MoHUA) has launched the ‘AANA Dashboard for Cities’ portal.

What is AANA Dashboard for Cities Portal?

Specifications	Details
Launched by	Ministry of Housing and Urban Affairs (MoHUA)
Aim	To create a robust database of the key performance metrics of Urban Local Bodies
Objectives	To help cities to 1. see how they are faring vis-à-vis other cities 2. inspire them by pointing to possibilities and areas of improvement 3. provide opportunity to learn and engage with frontrunners.
Will it rank ULBs?	AANA dashboard will not rank ULBs. It would serve as a tool for comparing similarly placed cities and promoting peer learning among cities.
Pillars	The dashboard will provide information on status and progress of the ULBs on five pillars: 1) Political & Administrative Structure

	2)Finance 3)Planning 4)Citizen Centric Governance 5)Delivery of Basic Services.
Significance	This dashboard will inspire the ULBs by pointing to possibilities and areas of improvement and providing them the opportunity to learn and engage with frontrunners.

Subject: INTERNATIONAL RELATIONS

Operation All Clear

Why in the News?

Operation All Clear is in the news after Bhutan's king three-day visit to Assam.

Why Bhutanese King Assam's visit became significant?

1. This is the **first visit of a Bhutanese monarch to the state.**
2. It came after a tense period, in which the peaceful relationship between Bhutan and Assam became complicated in the 1990s, when insurgent groups from Assam began setting up camps and operating out of forests in southeast Bhutan.

What is Operation All Clear?

This was the **Bhutan's first Military operation in 140 years** to flush out the militants from its territory. 'Operation All Clear' was launched by the Royal Bhutan Army on December 15, 2003.

What factors led to the launch of Operation All Clear?

1. **Impact on National Security**– The insurgents' activities disrupted economic development, stalled crucial projects like the Dungsam Cement Project as well as the closure of education institutes, and jeopardized the safety of Bhutanese citizens, leading to tragic loss of innocent lives.
2. **Threat to Bilateral Relations**– The presence of insurgents in Bhutan had implications on the excellent bilateral relations with India – its primary trade partner and key ally.

INDUS-X

Why in the News?

Innovations for Defence Excellence (iDEX) has organized the first INDUS-X Investors Meet at New Delhi.

What is INDUS-X?

Specifications	Details
Full Form	India – U.S. Defense Acceleration Ecosystem (INDUS-X)
Launched in	June 2023
Aim	To expand strategic technology partnership and defense industrial cooperation between governments, businesses and academic institutions of India and US.
Led by	India's Innovations for Defense Excellence (iDEX) and the Office of the Secretary of Defense (OSD)
Activities	INDUS-X will organize several initiatives such as joint prize challenges for start-ups, roundtable events, mentor-protege initiatives between major primes and startups, formation of a Senior Advisory Group among others.
Significance	1. This initiative builds on a commitment by the U.S. and Indian National Security Advisors in January 2023. 2. They committed to launch an "Innovation Bridge" to connect U.S. and Indian defence start-ups as part of the <u>U.S.-India initiative on Critical and Emerging Technology(iCET)</u>

Ben Gurion Canal Project

Why in the News?

Ben Gurion Canal Project back in news after Israel pushes to destroy Hamas in Gaza.

What is Ben Gurion Canal Project?

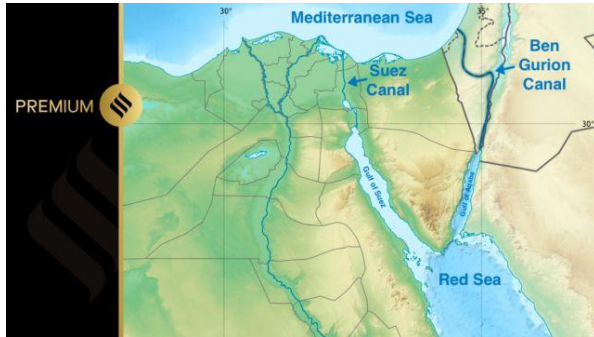


Figure 1. Source- The Indian Express

1. It was **first envisioned in the 1960s and seen as an alternative to Suez Canal route.**
2. The proposed project is to **cut a canal through the Israeli-controlled Negev Desert** from the tip of the **Gulf of Aqaba** – the eastern arm of the Red Sea that juts into Israel's southern tip and south-western Jordan – to the Eastern Mediterranean coast.

What is the purpose behind Ben Gurion Canal Project?

1. **Suez Canal congestion**– In March 2021, the mammoth cargo ship Ever Given got stuck in the canal, blocking passage for more than a week. Despite being widened and deepened over the years, it remains perennially congested.
2. **To End Egypt's monopoly**– Egypt's control over the waterway has been a source of conflict for almost 70 years now. The Suez Canal was also the focal point of both the 1967 and 1973 Arab Israeli wars and was shut from 1967-75. It collects all the toll revenue generated, in addition to the benefits it brings to its local economy.
3. **Western powers strategic interest**– For the West, a shipping lane through Israel would be ideal. Many decades ago, the Americans proposed to use nuclear weapons to blast a waterway through the Negev Desert. But the plan never progressed.

World Organisation for Animal Health (WOAH): India will host 33rd Conference of WOA Regional Commission for Asia and Pacific

Why in the News?

India is set to host the 33rd Conference of the WOA Regional Commission for Asia and the Pacific at New Delhi.

What is the WOA Regional Commission for Asia and the Pacific?

1. The World Organisation for Animal Health (WOAH) has set up five Regional Commissions to express specific problems facing its members in the different regions of the world.
2. The Regional Commission for Asia and the Pacific is one of them. It organizes a Conference once every two years in one of the countries of the region.

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3. These conferences aim to develop technical items and foster regional cooperation for the control of animal diseases.
4. The 33rd conference is being hosted by the Department of Animal Husbandry & Dairying at New Delhi.

What is the World Organisation for Animal Health (WOAH)?

Specifications	Details
Founded in	1924
Type	Intergovernmental organisation
Aim	To coordinate, support and promote animal disease control
Members	183 (India is one of the members)
Headquarters	Paris, France
Significance	Recognized as the reference organization for international animal health standards by the World Trade Organization (WTO)

Subject: INDIAN ECONOMY

Surety Bond: NHAI Accepts First Insurance Surety Bond

Why in the News?

National Highways Authority of India (NHAI) has accepted Insurance Surety Bond for the monetization program of the upcoming bid of Toll Operate Transfer (TOT) bundle.

What is Surety Bond?

Specification	Details
Definition	Surety Bonds are a type of insurance policy protecting parties involved in a transaction or contract from potential financial losses due to a breach of contract or other types of non-performance.
Parties Involved	1) Principal : The party that purchases the bond and undertakes an obligation to perform an act as promised. 2) Surety : The insurance company or surety company that guarantees the obligation will be fulfilled. If the principal fails to perform the act as promised, the surety is contractually liable for losses sustained. 3) Obligee : The party who requires, and often receives the benefit of the

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	surety bond. For most surety bonds, the obligee is a local, state or federal government organization.
Benefits	1) Will assist in developing an alternative to bank guarantees 2) Helps address the large liquidity and funding requirements of the infrastructure sector.
Issues	1) Surety bonds as a new concept is risky and insurance companies in India are yet to achieve expertise in risk assessment in such business. 2) Surety Bonds need extensive reinsurance support, and no primary insurers can issue any policy without proper reinsurance backup.

New rice variety can replace Pusa-44

Why in the News?

The Supreme Court in its order mentioned a “particular kind of paddy” grown mostly in Punjab, which were seen as major causes of stubble burning and the resultant pollution. The order didn’t name the variety, but the reference was likely to Pusa-44.

What is Pusa-44?

What is it?	It is a variety of rice.
Developed by	Delhi-based Indian Council of Agricultural Research (ICAR), commonly referred to as PUSA Institute.
Season	Sowing-Mid June Harvest - Late October
Growing areas	Punjab (mostly grown), Haryana, Uttar Pradesh, Rajasthan
Advantages & Disadvantages	Advantages- It is a high-yielding variety. Disadvantages 1. It is a long-duration variety that takes 155-160 days to mature leaving less window period for field preparation to sow the next crop. 2. This variety (PUSA-44) leaves standing stubble after its harvest which farmers usually burn, finally resulting in pollution.

Which is the new variety that can replace Pusa-44? And what is its significance?

Pusa-2090

1. It is the improved version of Pusa-44.
2. It is a **cross between Pusa-44 and CB-501** (type of Asian rice variety that is extensively grown in

East Asia)

3. Its yield is on par with Pusa-44.
4. It **matures in only 120-125 days** (which gives sufficient window period to clear the fields)
5. Pusa-2090 was tested at the All-India Coordinated Rice Improvement Project trials in the 2020, 2021 and 2022 season.

Sovereign Green Bond: FY24's first sovereign green bond issuance sails through

Why in the News?

The first issuance of Sovereign Green Bonds for the Fiscal Year 2024 saw a successful auction of five-year maturity bonds, drawing considerable investor attention.

What are Sovereign Green Bonds?

1. Sovereign Green bonds are **fixed interest-bearing financial instruments** issued by any sovereign entity / inter-governmental organization / corporation.
2. The proceeds of these bonds are used only for environmentally conscious, climate-resilient projects.
3. **In the Union Budget 2022-23, the government announced the issue of sovereign green bonds (SGrBs) as part of its market borrowings** for mobilizing resources for green infrastructure.
4. The framework for the sovereign green bond was issued by the government in November 2022.

What are the benefits of Sovereign Green Bonds?

1. **Low Risk:** Since these bonds are issued by the government entity, they carry nil credit and default risk.
2. **Focus on sustainable development:** Green bonds are a good investment vehicle for those who are more concerned with the sustainable social development and greening of brown industries.
3. **Absence of Project-Related Risks:** According to the framework released by the government, investors in these bonds do not bear project related risks. This means payments of principal and interest on the issuances are not conditional on performance of the projects.

What are the risks associated with Sovereign Green Bonds?

1. **Greenwashing:** Greenwashing refers to the **practice of making false or misleading claims about the green credentials of a company or a project**. There's a risk that projects funded by green bonds may not deliver the expected net environmental benefits.
2. **Credit Rating of Sovereign Bonds:** If a government wants to go global to raise funds, it needs to improve its credit rating as all bonds issued globally are closely linked to the credit rating of the issuing country.

Subject: SCIENCE & TECHNOLOGY

Pump Storage Projects (PSP): Coal Ministry to Embark on Developing Pump Storage Projects in de-Coaled Mines

Why in the News?

The Ministry of Coal is working on a plan to develop Pump Storage Projects (PSP) in de-coaled coal mines.

What are Pump Storage Projects (PSP)?

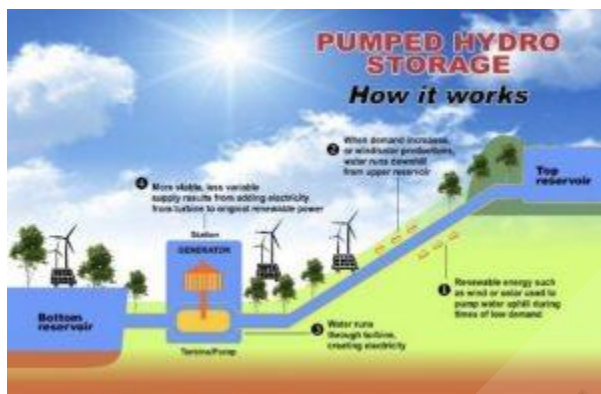


Figure 2. Source: Saur Energy

1. Pumped storage is a type of hydropower energy storage system used for grid energy storage.
2. It is a form of clean energy storage that is ideal for electricity grids reliant on solar and wind power.
3. This technology absorbs surplus energy at times of low demand and releases it when demand is high.

How do Pumped storage power plants work?

1. Pumped hydropower storage **uses the force of gravity to generate electricity using water that has been previously pumped from a lower source to an upper reservoir.**
2. The water is pumped to the higher reservoir at times of low demand.
3. At times of high demand, the water is then released to drive a turbine in a powerhouse and supply electricity to the grid.

Why is the government planning to develop Pump Storage Projects (PSP) on de-coaled mines?

There are over 200 de-coaled mines with a huge land area. Many of these mines are feasible for pumped storage power plants as lower reservoirs, head of water and land are available.

What are the advantages of Pump Storage Projects (PSP)?

Specifications	Details
Grid Stability and Reliability	Provides a reliable and rapid response to changes in electricity demand. It can quickly generate electricity during peak demand periods, helping to stabilize the grid.
Long Lifespan and Durability	Pumped storage facilities typically have long lifespans and are built to withstand frequent cycling between pumping and

	generating modes. This makes them durable and reliable assets for energy infrastructure.
Water Management	These power plants can be designed to manage water resources effectively, ensuring responsible use and minimizing environmental impact.
Integration of Renewable Energy	Pumped storage helps integrate renewable energy sources into the grid by compensating for their intermittency. It provides a way to store excess energy when renewable sources are abundant and release it when they are not producing electricity.
Reduced Greenhouse Gas Emissions	By facilitating the efficient use of renewable energy and reducing the need for fossil fuel-based peaking power plants, pumped storage can contribute to a reduction in greenhouse gas emissions.

Green Alga (*P. salinarum*)-Spotted first time in India

Why in the News?

A young researcher has divulged the secret of how one of the smallest green algae called *Picocystis Salinarum* survives the harshest of conditions.

What is this new Alga?

1. *P. salinarum*(one of the smallest green algae) **found in hypersaline soda lake Sambhar, Rajasthan**, survive extreme environments.
2. Though the alga had been widely found in saline-soda lakes around the world, it was **spotted for the first time in India only in the Sambhar Lake**.
3. *Picocystis salinarum* cells under normal conditions have a spherical or oval shape (size ranges from 2 to 3 μ m).
4. The cell **wall is mainly composed of polymers of the monosaccharide arabinose, polyarabinose**.

What are the Key findings of the Study?



Figure 3. Source-PIB

1. **Molecular mechanisms of adaptation**- Through studying the changes in protein abundances.
2. The unique organism apparently enhances photosynthesis and ATP (type of nucleic acid) synthesis along with chaperone proteins (proteins that assist the conformational folding or unfolding of large proteins) as key response to high salinity-alkalinity.
3. **Photosynthetic activity**- Enhanced photosynthetic activity exhibited by *P. salinarum* in highly saline-alkaline condition is noteworthy as photosynthesis is suppressed under hyperosmotic conditions in most photosynthetic organisms.
4. **Biotechnological applications**- Study shows *P. salinarum* as a promising candidate for biotechnological applications like **microalgal bioproducts and increasing salt tolerance in plants**.
5. Study also shows it as a model organism for deciphering the molecular mechanisms of osmotic adaptation.
6. It also revealed the unique characteristics of this microalga for bicarbonate-based integrated carbon capture and biomass production.

Subject: ENVIRONMENT

Environmental DNA

Why in the News?

Researchers at the Laboratory for the Conservation of Endangered Species (LaCONES) have developed a method for detecting all life forms in an ecosystem using environmental DNA (eDNA).

What have the researchers developed?

1. Researchers have developed a method to detect all life forms within an ecosystem using environmental DNA (eDNA).
2. This **method involves collecting water, soil or air samples and then sequencing the DNA fragments to evaluate the total biodiversity in the ecosystem.**
3. It can detect a broad spectrum of organisms, encompassing viruses, bacteria, archaea, fungi, plants, insects, birds, fish, and various animals.
4. The technique is non-invasive, cost-effective, rapid, and scalable. It offers an effective means for monitoring and conserving biodiversity in both freshwater and marine ecosystems.

What is Environmental DNA (eDNA)?

1. Environmental DNA (eDNA) refers to genetic material that organisms shed into their environment. It can be found in various environmental sources such as soil, water or air.

2. This **genetic material is derived from shed skin cells, mucus, urine, feces, hair or any organic material released by organisms into their surroundings.**

Significance: eDNA is a powerful tool used in environmental monitoring and biodiversity studies. It allows scientists to detect the presence of organisms without directly observing them.

What is the Laboratory for the Conservation of Endangered Species (LaCONES)?

LaCONES is a dedicated Laboratory of CSIR's Centre for Cellular and Molecular Biology (CCMB).

Established in 1998

Significance: It is India's only research facility engaged in conservation and preservation of wildlife and its resources.

Initiatives: India's first genetic bank for wildlife conservation, the National wildlife genetic resource bank (NWGRB) was established at LaCONES in 2018.

UNEP Production Gap Report

Why in the News?

The UN Environment Programme (UNEP) has published the Production Gap Report 2023.

What is the Production Gap Report?

Specifications	Details
Prepared by	UNEP, Stockholm Environment Institute (SEI), Climate Analytics, E3G AND International Institute for Sustainable Development.
First Launched in	2019
Aim	To track the discrepancy between governments planned fossil fuel production and global production levels consistent with limiting warming to 1.5°C or 2°C
Key Focus of the report	The report analyzes emissions trends for 20 major fossil-fuel-producing countries. One among them is India.

What are the key findings of the Production Gap Report 2023?

1. **Under the Paris Agreement**, countries have committed to a long-term goal of limiting average

global temperature to less than two degrees Celsius above pre-industrial levels and even try to limit them further to 1.5 degrees Celsius.

2. However, the report analyzed the 20 major fossil fuel producing countries.

3. It found that these countries plan to produce more than double the amount of fossil fuels in 2030 than would be consistent with limiting warming to 1.5°C and 69% more than that would be consistent with 2 degrees Celsius.

What are the recommendations given by the Production Gap Report 2023?

1. Increase transparency in the plans, projections and support for fossil fuel production. Align those plans with national and global climate goals;
2. Aim for a near **total phase-out of coal production and use by 2040** and a combined reduction in oil and gas production and use by three-quarters by 2050 from 2020 levels.

Energy Conservation Building Code, 2017: Why the IEA called it a 'notable exception' among developing countries

Why in the News?

The International Energy Agency (IEA) has released the World Energy Outlook report 2023. The report has said that India's Energy Conservation Building Code (ECBC) is better than those in many other developing countries due to its strong emphasis on energy efficiency.

What is the Energy Conservation Building Code (ECBC)?

Specifications	Details
Released by	Bureau of Energy Efficiency (BEE)
First released in	2007 and then updated in 2017
Purpose	It sets minimum energy standards for commercial buildings, with the objective of enabling energy savings of between 25 and 50% in compliant buildings.
Code applicable to	Commercial buildings like hospitals, hotels, schools, shopping complexes and multiplexes which have a connected load of 100 kW or more, or contract demand of 120 kVA or more. Note: The code is for both new buildings and retrofitting existing buildings.
Assessment Parameters	The code primarily looks at parameters like building design including envelope (walls, roofs, windows), lighting systems, renewable energy integration among others.
Tagging of buildings	Compliant buildings are assigned one of three tags in ascending order of efficiency, namely ECBC, ECBC Plus and Super ECBC.

How many states have implemented the Energy Conservation Building Code (ECBC)?

1. 23 out of 28 states have notified ECBC rules. But only 15 states have notified rules based on the latest ECBC, 2017.
2. Five states – Gujarat, Maharashtra, J&K, Ladakh, and Manipur – are yet to notify ECBC rules.

How have the States performed in energy efficiency in buildings?

1. BEE has published the State Energy Efficiency Index (SEEI) in 2022. It rated states on various parameters of energy efficiency.
2. As per the index, **Karnataka was the top state in energy efficiency in buildings.** It was followed by Telangana, Haryana, Andhra Pradesh, and Punjab.
3. Bihar, Odisha, West Bengal, Tamil Nadu, and Jharkhand were the five worst rated states for energy efficiency in buildings.

What does the Energy Conservation (Amendment) Act, 2022 provide for?

1. The Energy Conservation (Amendment) Act, 2022 provides for the transitioning of ECBC into Energy Conservation and Sustainability Building Code.
2. It incorporates measures relating to reducing carbon footprint, achieving zero emissions, using materials efficiently, promoting clean energy and adopting circular practices.
3. Additionally, it makes ECO Niwas Samhita, the residential building energy code, mandatory. This is crucial as residential buildings use 75% of total electricity consumed in the building sector.

Red Sanders: India removed from the CITES Review of Significant Trade process for Red Sanders

Why in the News?

In the recently concluded CITES Standing Committee meeting, India has been removed from the Review of Significant Trade for Red Sanders.

What is the CITES Review of Significant Trade Management System?

1. **Developed by the United Nations International Computing Centre and funded by the European Union (launched at COP 19).**
2. It was designed to identify species that may be subject to unsustainable levels of international trade, and to identify problems and solutions concerning effective implementation of the Convention.
3. The **Review of Significant Trade Management System** tracks the progress of country/species combinations selected for review, through the four stages of the Significant Trade Review.



What are Red sanders?

Figure 4. Source-The Hindu

What is it?	Red Sanders is a flora-species that is endemic to a distinct tract of forests in Eastern Ghats region of Andhra Pradesh.
IUCN Status	Endangered
CITES status	Appendix-II
Significance	1. The rich hue and therapeutic properties of Red Sanders are responsible for its high demand across Asia, particularly in China. 2. Red Sanders is also used in cosmetics, medicinal products and high-end furniture/wood craft

Why India put under CITES Review of Significant Trade Management System?

1. The Red sanders species was listed for Review of Significant Trade (RST) process more or less since 2004.
2. The CITES RST process enables disciplinary action in the form of trade suspensions directed at countries that do not meet their obligations. Loopholes in convention implementation led to put India under watch list of CITES RST.

What are the Initiatives taken by Indian government?

1. India had been updating the CITES Secretariat on the status of export of red sanders from India.
2. India had also **conducted Non-Detrimental Finding for the species and had finalized a zero quota for export of Red sanders from wild.**

(Non-Detrimental Finding determines whether some of the resources can be sustainably used in commercial international trade, without affecting the abundance and growth of the species in the wild)

What is its significance for India?

1. This action will **help the farmers growing Red sanders to increase their income through cultivation and export of Red Sanders from the plantations.**

2. It would also help in motivating farmers to grow more red sanders trees as a source of sustainable income.

NDC Synthesis Report: World is severely off track to limit planet-heating emissions

Why in the News?

The Nationally Determined Contributions (NDC) Synthesis Report has been released.

What is the NDC Synthesis Report?

1. **Released by:** Intergovernmental Panel on Climate Change (IPCC)
2. **Purpose:** The report has analyzed the Nationally Determined Contributions (NDC) of 195 Parties to the Paris Agreement.

What is the Intergovernmental Panel on Climate Change (IPCC)?

Specifications	Details
Established in	1988 by the World Meteorological Organization (WMO) and the United Nations Environment Programme (UNEP).
Aim	To provide policymakers with regular scientific assessments related to climate change
India	India is one of the members of IPCC
Working Groups	Working Group I: Focuses on the physical science basis of climate change.
	Working Group II: Addresses impacts, adaptation, and vulnerability.
	Working Group III: Examines options for mitigation of climate change.
Does IPCC conduct its own research	IPCC itself does not conduct any research nor does it monitor climate related data or parameters. Instead, thousands of scientists from all over the world contribute to the work of IPCC on a voluntary basis.
Nobel Prize	The 2007 Nobel Peace Prize was shared between the Intergovernmental Panel on Climate Change (IPCC) and United States former vice president, Al Gore.

Subject: SCHEMES & PROGRAMMES

Jal Diwali - “Women for Water, Water for Women Campaign” launched

Why in the News?

The Ministry of Housing and Urban Affairs (MoHUA) has launched the “Women for Water, Water for Women Campaign”.

What are the Women for Water, Water for Women Campaign?

Specifications	Details
Launched by	Ministry of Housing and Urban Affairs (MoHUA)
Launched under	<u>Atal Mission for Rejuvenation and Urban Transformation (AMRUT)</u> in partnership with the National Urban Livelihood Mission (NULM)
Aim	1.To provide a platform for inclusion of women in water governance. 2.To instill a sense of ownership and belonging among women towards water infrastructure.
Knowledge Partner	Odisha Urban Academy
Focus Areas of the campaign	1. Familiarizing the women with functioning of Water Treatment Plants & water testing facilities. 2. Promote inclusivity & involvement through souvenirs & articles created by Women SHGs. 3. Familiarizing & educating the women about AMRUT scheme & its impact on water infrastructure.
Phase 1 of the campaign	It will witness participation from all States and Union Territories except states under Model code of Conduct (Telangana, Rajasthan, Chhattisgarh, MP and Mizoram)

Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)

Why in the News?

Prime Minister has announced that Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY) will be extended for another five years i.e. till December 2028.

What is Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)?

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Factly Compilation for the Month of November (Second Week) 2023

Specifications	Details
Launched in	2020
Purpose	Under the scheme, 5 kg of food grain per person per month is provided free of cost. This assistance is in addition to the subsidized ration provided under the <u>National Food Security Act (NFSA)</u> .
Beneficiaries	All the beneficiaries covered under the National Food Security Act (NFSA) [Antodaya Anna Yojana & Priority Households] including those covered under Direct Benefit Transfer (DBT).
Operated by	Ministry of Consumer Affairs, Food & Public Distribution
Integration of PMGKAY and NFSA	<ol style="list-style-type: none">1. In January 2023, the government approved the integration of PM-GKAY benefits with the provisions of the NFSA Act.2. This integration will streamline the delivery of free food grains.3. It also ensures that families falling under the Antyodaya Anna Yojana (AAY) and priority households (PHH) categories receive free food grains according to their entitlement under NFSA.

Subject: REPORTS & INDICES

National Coal Index

Why in the News?

The National Coal Index (NCI) has increased for the first time since April 2023.

What is the National Coal Index?

Specification	Details
Started in	4th June 2020
Started by	Ministry of Coal
Other participating Institutions	The concept and design of the Index have been developed by the Indian Statistical Institute, Kolkata.
Objective	It is a price index (released monthly) which reflects the change of price level of coal in a particular month relative to the fixed base year.

Factly Compilation for the Month of November (Second Week) 2023

Base Year	The base year for the NCI is Financial Year 2017-18
Components	Composed of five sub-indices: 1. Three for Non-Coking Coal -The three sub-indices for Non-Coking Coal are combined to arrive at the Index for Non-Coking Coal. 2. Two for Coking Coal -Two sub-indices for Coking Coal are combined to arrive at the Index for Coking Coal.
Compilation Parameters	1. Prices of coal from all the sales channels of coal (Notified Prices, Auction Prices and Import Prices) are considered for compiling the NCI. 2. The amount of revenue share per tonne of coal produced from auctioned blocks would be calculated by means of a defined formula.
Who notifies the prices?	1. Non-coking coal – Coal India Limited fixes notified prices for each grade (uniform for both regulated and non-regulated sector). 2. Coking Coal – Subsidiaries of Coal India Limited notified the prices.
Benefits	1. The Coal Index is the base indicator for the purpose of taxation . 2. This Index will be helpful for future calculation of upfront amount and intrinsic value of mine. 3. Rise in coal index encourages coal suppliers to scale up production to reap maximum profit.

State of Climate Services Report for 2023

Why in the News?

A report from the World Meteorological Organization (WMO) indicated that the health sector is inadequately prepared to safeguard people from the effects of heat and other extreme weather events.

What is the World Meteorological Organisation?

About	It's a specialised agency of the United Nations.
Objective	It handles international cooperation and coordination on the state of the Earth's atmosphere. It is formed for exchanging weather data and research.
Established in	In 1950–originated from the International Meteorological Organisation (IMO).
Headquarter	Geneva (Switzerland)

What is the State of Climate Service report?

Released by	World Meteorological Organisation(Annually)
2023 report focus area	Health
What is its highlight?	It highlights the need for tailored climate information and services to support the health sector in the face of more extreme weather and poor air quality, shifting infectious disease patterns and food and water insecurity.

Subject: GEOGRAPHY & PLACES IN NEWS

Kawah Ijen Crater Lake

Why in the News?

The Copernicus Sentinel-2 mission, which provides optical images of Earth's surface, captured the stunning images of this Lake and its related natural phenomenon.

What is Kawah Ijen Crater Lake? Its location and its distinct properties?

Location in Java



Source: Wikipedia

What is it?	It's the world's largest acidic lake.
Where is it located?	In the crater of the Kawah Ijen volcano (centre of East Java, Indonesia)

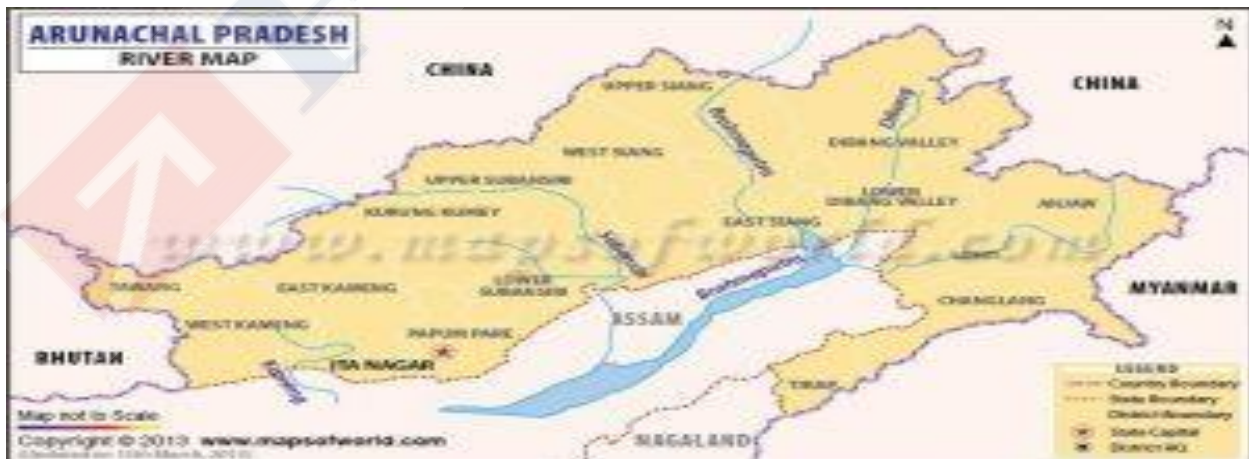
What is it known for?	Turquoise blue waters
What are its distinct properties?	<ol style="list-style-type: none"> 1. High concentration of acid- Lake filled with a high concentration of sulphuric and hydrochloric acids, as well as dissolved minerals, which makes it Un swimmable. 2. Very less PH value-The water in the Kawah Ijen Crater Lake has pH values as low as 0.5, like the strength of car battery acid. 3. Emit high level of gases- It emits hot, flammable sulphurous gases that ignite upon contact with Earth's oxygen-rich atmosphere (gases burn with an eerie, blue flame, creating an enchanting nighttime spectacle).
Nearby landscape Feature	<ol style="list-style-type: none"> 1. Kawah Ijen volcano- It is a composite volcano located at the easternmost part of Java Island in Indonesia and hosts the largest natural acidic lake in the world 2. Raung or Gunung Raung Volcano (one of the most active volcanoes on the island of Java present in immediate southwest vicinity) 3. Belambangan Biosphere Reserve, designated by UNESCO in 2016.

Subansiri Lower Hydroelectric Project

Why in the News?

The Subansiri Lower Hydroelectric Project has experienced a setback due to a landslide that blocked the only operational diversion tunnel. This obstruction halted the flow of water downstream, impacting the Subansiri River.

What is the Subansiri Lower Hydroelectric Project?



Source: MapsofWorld

Factly Compilation for the Month of November (Second Week) 2023

Specifications	Details
What is it	It is an under-construction gravity dam on the Subansiri River Note: A gravity dam is a dam constructed from concrete or stonemasonry. It is designed to hold back water by using only the weight of the material to resist the horizontal pressure of water pushing against it.
Located in	Arunachal Pradesh and Assam
Executed by	National Hydroelectric Power Corporation (NHPC)
Significance	Once completed, it will be the largest hydroelectric project in India

Where is the Subansiri River?

Specifications	Details
Tributary of	Brahmaputra
Originates in	Tibet Plateau and enters India through Miri hills in Arunachal Pradesh.
Known as	Gold River
Passes through which Indian states	Arunachal Pradesh and Assam
Significance	It is the largest tributary of Brahmaputra River.

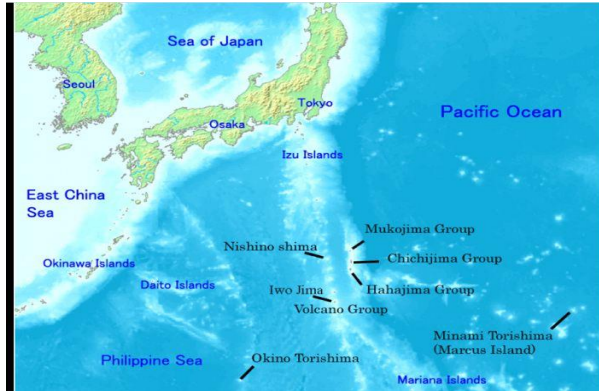
New island born near Ogasawara Island chain in Japan

Why in the News?

Recently, a new island emerged near Japan's Ogasawara Island chain after an undersea volcanic eruption.

What is Ogasawara Island chain?

1. The Ogasawara islands chain (also known as Bonin islands) is a volcanic arc that consists of more than 30 islands.
2. It **comprises of three main island groups Mukojima, Chichijima, & Hahajima.**
3. It is located more than 1,000 kilometers south of Tokyo in the Pacific Ocean.
4. It is a UNESCO World Heritage site inducted in 2011.



Source- Wikipedia

Seismic Activity in Iceland: As thousands of earthquakes rock Iceland, a volcanic eruption to follow?

Why in the News

Iceland is currently facing a notable surge in seismic activity, with about 1,400 earthquakes detected in the last 24 hours and over 24,000 recorded in the Reykjanes Peninsula since late October.

What are the reasons for seismic activity in Iceland?

- Geological Location:** Iceland is located on the Mid-Atlantic Ridge, where the Eurasian and North American tectonic plates meet. This geological setting makes Iceland prone to frequent earthquakes.
- Magma Activity beneath the surface:** The current surge in earthquakes is associated with magma activity beneath the Earth's surface. This seismic swarm is seen as a precursor to potential volcanic eruption.

Where is the Reykjanes Peninsula?

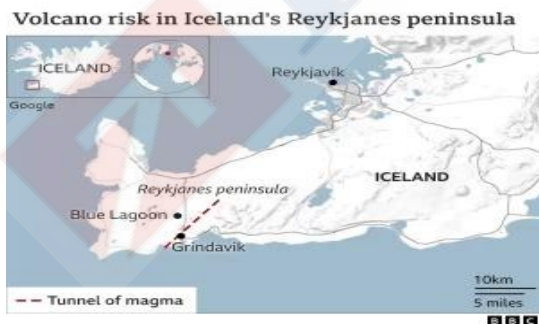


Figure 5. Source: BBC

1. Reykjanes Peninsula is in southwestern Iceland. It is a region known for its geological activity, including the presence of the Mid-Atlantic Ridge.

2. Fagradalsfjall is situated approximately 40 km southwest of Reykjavik. It is considered the "world's newest baby volcano". After eight centuries of dormancy, it erupted in 2021, 2022 and 2023.

Lake Titicaca: In South America's Andes, a shrinking Lake Titicaca rings climate alarm bell

Why in the News?

Lake Titicaca is experiencing record-low water levels due to the El Niño weather phenomenon, prolonged dry conditions and unusual high temperatures.

Where is Lake Titicaca?



Source: Britannica

Specifications	Details
Location	Andes Mountains on the border of Bolivia and Peru in South America.
Altitude	It is the highest navigable lake globally
Geographical Features	The lake is divided into two nearly distinct subbasins, and these are connected by the Strait of Tiquina.
Size	It is the largest freshwater lake in South America
Cultural Significance	The lake was once seen as a deity by the pre-Columbian people that lived on its shores,

Subject: MISCELLANEOUS

FIDE Grand Swiss Open 2023

Why in the News?

The Prime Minister, Shri Narendra Modi has praised Vidit Gujrathi and Vaishali for their outstanding victories in FIDE Grand Swiss Open 2023.

What is FIDE Grand Swiss Open?

Aspect	Details
What is it?	1. The FIDE Grand Swiss Tournament is a Swiss-system chess tournament, forming part of the qualification for the World Chess Championship.
Rules of the Game	<p>1. It was an 11-round Swiss-system tournament</p> <p>2. Tie-breaks-Tiebreaks between players who finish on the same score will be determined, in order, by the following tie-breaks</p> <ul style="list-style-type: none"> -Average rating of opponents -Buchholz system (The Buchholz system is a ranking or scoring system in chess developed by Bruno Buchholz in 1932, for Swiss system tournaments. It was originally developed as an auxiliary scoring method, but more recently it has been used as a tie-breaking system.) -The results of individual games between tied players -Drawing of lots
FIDE Grand Swiss Open 2023 held in	Isle of Man (United Kingdom)
Winners & runner up of 2023	<p>1. Men- Winners -Vidit Gujrathi(India) Runner up- Hikaru Nakamura (USA)</p> <p>2. Women- Winner-Vaishali Rameshbabu (India) Runner up-Anna Muzychuk (Ukraine)</p>
Significance of its winning	Winners & runners earned the right to the play in the Candidates Tournament 2024

Exercise BONGOSAGAR: India & Bangladesh Navies Undertake BONGOSAGAR

Why in the News?

The 4th edition of Exercise BONGOSAGAR was conducted in the Northern Bay of Bengal.

What is Exercise BONGOSAGAR?

Specification	Details
Conducted between	India and Bangladesh
Type	Naval Exercise
Started in	2019
Conducted	Annually
Aim	To develop a high degree of interoperability and joint operational skills through the conduct of a wide spectrum of maritime exercises and operations between the two navies
Participation	Indian Navy Ships Kuthar, Kiltan and Maritime Patrol Aircraft (MPA) Dornier participated in the exercise.
Other exercises between India and Bangladesh	Exercise SAMPRITI: It is an annual joint military exercise between India and Bangladesh