

JUNE CURRENT AFFAIRS

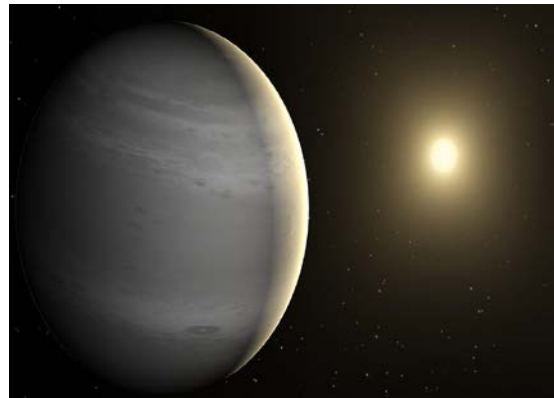
NEW JUPITER SIZED PLANET DISCOVERED

Why in News?

A new **Jupiter-size exoplanet** with the highest density known to this date and **mass 13 times that of Jupiter**, has been discovered by ISRO.

About:

- Researchers from the **Exoplanet Research Group of the Physical Research Laboratory (PRL)**, Ahmedabad discovered the presence of a massive giant exoplanet.
- Massive giant exoplanets are exoplanets with a mass greater than four times the mass of Jupiter.
- The team which consisted of scientists from India, Germany, and the U.S.A. identified that the exoplanet had a density of **-14 g/cm³**. This was the highest density of any exoplanet identified to date.
- The newly discovered exoplanet orbits around the star - **TOI4603 or HD 245134.**
- The discovery of this massive exoplanet was made using the indigenously made PRL Advanced Radial-velocity Abu-sky Search spectrograph (PARAS).
- NASA's Transiting Exoplanet Survey Satellite (TESS) initially declared TOI4603 as a possible candidate to host a secondary body of unknown nature.
- **It is located 731 light years away. It orbits a sub-giant F-type star TOI4603 every 7.24 days.**
- ISRO claimed that the discovery is unique as the planet falls in the transition mass range of massive giant planets and low-mass brown dwarfs, ranging from 11 to 16 times the mass of Jupiter.
- Indian scientists at PRL had earlier used the PARAS spectrograph and the PRL 1.2m telescope, in order to discover exoplanets K2-236b in 2018 and TOI-17890b in 2021.



YAKSHAGANA

Why in News?

The beginning of monsoon is no longer the end of Yakshagana performances in the Karnataka's coastal districts. With an abundance of venues opening up over the last decade, Yakshagana theatre is thriving throughout the year.

About Yakshagana:

- Yakshagana is a **traditional theatre**, developed in Dakshina Kannada, Udupi, Uttara Kannada, Shimoga and western parts of Chikmagalur districts, **in the state of Karnataka and in Kasaragod district in Kerala that combines dance, music, dialogue, costume, make-up, and stage techniques with a unique style and form.**
- It is **believed to have evolved from pre-classical music and theatre during the period of the Bhakti movement.**
- It is **sometimes simply called "Aata" or āṭa (meaning "the play").**
- This theatre style is mainly found in coastal regions of Karnataka in various forms.
- **Yakshagāna literally means the song (gāna) of the yaksha (nature spirits).**
- It is **performed with massive headgear, elaborate facial makeup, and vibrant costumes and ornaments.**
- **Usually recited in Kannada**, it is also performed in Malayalam as well as Tulu (the dialect of south Karnataka).
- **It is performed with percussion instruments like chenda, maddalam, jagatta or chengila (cymbals) and chakratala or elathalam** (small cymbals).
- It was performed by a special community known as Jakkula Varu in the royal courts of the Vijayanagar dynasty.
- The **dance form of Yakshagana has been divided into two groups** by intellectuals and researchers.
 - The first category is **Moodalopaya**, which encompasses the eastern sides of Karnataka.



- **Paduvlopaya** is the second category of Yakshagana, which includes the western parts of the state of Karnataka, as well as Udupi, Kasaragod, and Uttara Kannada.

CITIIS PROGRAMME

Why in News?

The Union Cabinet has approved the **City Investments to Innovate, Integrate and Sustain 2.0 (CITIIS 2.0)**.

About CITIIS : City Investments to Innovate, Integrate and Sustain

- CITIIS 2.0 is a program **conceived by the Ministry of Housing and Urban Affairs (MoHUA)** in partnership with the French Development Agency (AFD), Kreditanstalt für Wiederaufbau (KfW), the European Union (EU), and National Institute of Urban Affairs (NIUA).
- It is a **part of the Smart Cities Mission** and aims to promote integrated waste management and climate-oriented reform actions.
- The project **will be implemented in 18 cities** selected through a competition process.
- The program will **run for a period of four years, i.e., from 2023 to 2027.**
- The program envisages supporting:
 - competitively selected projects promoting a **circular economy with a focus on integrated waste management at the city level,**
 - **climate-oriented reform actions at the State level,** and
 - **institutional strengthening and knowledge dissemination at the National level.**
- **Components:**



- **Component 1:** Financial and technical support for developing projects focused on building climate resilience, adaptation and mitigation in up to 18 smart cities,
 - **Component 2:** The States will be provided support to (a) set-up/strengthen their existing State climate centres/ Climate cells/ equivalents (b) create State and city level Climate Data Observatories (c) facilitate climate-data driven planning, develop climate action plans and (d) build capacities of municipal functionaries, and
 - **Component 3:** Interventions at all three levels; Centre, State and City to further climate governance in urban India
- CITIIS 2.0 will **supplement the climate actions of the Government of India through its ongoing National programs (National Mission on Sustainable Habitat, AMRUT 2.0, Swachh Bharat Mission 2.0 and Smart Cities Mission)**, as well as **contributing positively to India's Intended Nationally Determined Contributions (INDCs) and Conference of the Parties (COP26) commitments.**
 - CITIIS 1.0 was launched in 2018 and assisted 12 cities across India in sustainable urban infrastructure projects.

CHOLLIMA-1 ROCKET

Why in News?

North Korea's attempt to put the country's first **spy satellite** into space failed Wednesday in a setback to leader Kim Jong Un's push to boost his military capabilities as tensions with the United States and South Korea rise.

About:

- The attempt by North Korea is **to boost military capabilities in the context of rising tensions with the USA and South Korea.**
- North Korea **said that it will soon attempt again to relaunch the satellite** as its leader is determined to improve weapons and to pressurize the US and South Korea.

- South Korean military rescued parts of the fallen rocket from the waters in 200 Southwest of Eocheongdo island.
- North Korea through the satellite launch violated the UN security council resolutions which banned the country from conducting launches using ballistic technology.
- The launch failed as the rocket lost thrust after the separation of the first and second stages.
- **The launch caused alarm and prompted South Korea and Japan to issue evacuation orders preparing citizens for evacuation.**
- The US condemned the launch of the Cholima 1 rocket which was a violation of a UN security council resolution.

SAL SEEDS

Why in News?

The government-owned Tribal Development Co-operative Corporation of Odisha Ltd (TDCCOL) **decided to procure sal seeds (Shorea robusta) from nine Odisha districts.**

About :

- The **move, which comes after a gap of three years, intends to arrest the distress sale of the minor forest produce (MFP).**
- However, **seed collectors and forest rights activists said the decision was too late.**
- Several tribal people, mainly seed collectors, will be deprived of the procurement scheme.
- **This will not be enough to check the distress sale of the MFP in the state as the seeds will be procured only from nine districts.**
- **The seed collectors of the left-out districts will be forced to sell the produce at throwaway prices.**

About Sal Seeds:

- **Shorea robusta**, the sal tree, sāla, shala, sakhua, or sarai, is a species of tree in the family Dipterocarpaceae.
- The tree is native to India, Bangladesh, Nepal, Tibet and across the Himalayan regions.
- **Habitat: Dense dry deciduous forests, on hill slopes, and flat grounds and in evergreen moist forests**
- It is resistant to fire, and thus often a dominant tree in Indian forests.
- It is classified under the Minor Forest Produce and state government provides Minimum Support Price
- Shorea robusta can grow up to 40 metres tall with a trunk diameter of 2 metres (6.6 feet).
- The leaves are 10–25 cm long and 5–15 cm broad.
- In wetter areas, sal is evergreen; in drier areas, it is dry-season deciduous, shedding most of the leaves from February to April, leafing out again in April and May.
- The sal tree is known also as sakhua in northern India, including Madhya Pradesh, Odisha and Jharkhand.
- It is the state tree of two Indian states – Chhattisgarh and Jharkhand.
- In Hindu tradition, the sal tree is sacred. The tree is also associated with Vishnu. The tree's common name, sal, comes from the word shala, which means 'rampart' in Sanskrit.
- Jains state that the 24th tirthankar, Mahavir, achieved enlightenment under a sal tree.
- Sal is one of the most important sources of hardwood timber in India, with hard, coarse-grained wood that is light in colour when freshly cut, but becomes dark brown with exposure.
- The resin of this tree is used in the indigenous system of medicine.
- Sal seeds and fruit are a source of lamp oil and vegetable fat. The seed oil is extracted from the seeds and used as cooking oil after refining.



INDIA'S 1ST PERMANENT MAGNETS PLANT

Why in News?

Recently, the **PM has inaugurated India's first facility to produce rare earth permanent magnets in Visakhapatnam.**

About Permanent Magnet:

- A permanent magnet is a **type of magnet that can create a magnetic field without needing any external power source.**
- It is called “permanent” because once it is magnetized, it can maintain its magnetism for a long time.
- Permanent magnets are **usually made from certain types of metals or alloys, such as iron, nickel, and cobalt, or rare earth elements like neodymium and samarium.**
- An **everyday example is a refrigerator magnet** used to hold notes on a refrigerator door.
- These include the elements iron, nickel and cobalt and their alloys, some alloys of rare-earth metals, and some naturally occurring minerals such as lodestone.



About Rare Earth Permanent Magnet:

- Rare earth permanent magnets are a **type of permanent magnet that is made from rare earth elements.**
- **Rare earth elements are a group of seventeen chemical elements in the periodic table,** including elements such as neodymium, samarium, and dysprosium.
- Developed in the 1970s and 1980s, **rare-earth magnets are the strongest type of permanent magnets made, producing significantly stronger magnetic fields than other types** such as ferrite or alnico magnets.

PM SVANIDHI SCHEME

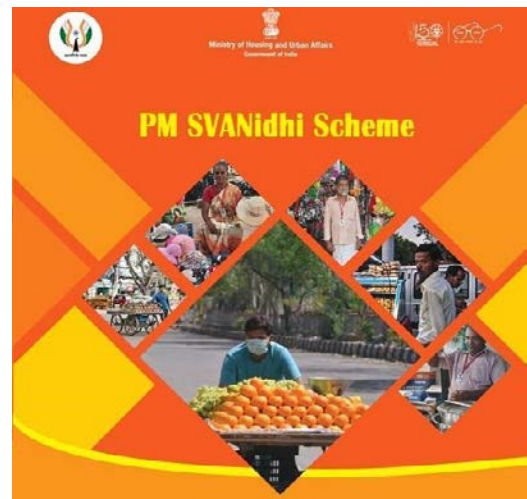
Why in News?

Over **46.54 lakh** small working capital loans have been disbursed to street vendors under the Prime Minister Street Vendor's AtmaNirbhar Nidhi (PM-SVANidhi) in the three years since it was launched on June 1, 2020.

A total of 46,54,302 loans had been disbursed. Out of those loans, **about 40% (18,50,987) have been repaid so far.**

About SVANIDHI Scheme:

- The **PM Street Vendor's AtmaNirbhar Nidhi (PM SVANidhi)** was launched by the **Ministry of Housing and Urban Affairs** on **June 01, 2020.**
- It is a **central sector scheme** for **providing affordable Working Capital loan to street vendors to resume their livelihoods that have been adversely affected due to Covid-19 lockdown.**
- The duration of the scheme is until March 2022.
- **Vendors will be provided with an initial working capital of up to Rs. 10000**
- A vendor will get an interest subsidy at 7 per cent at early or timely repayment of loans.
- There is a **provision of monthly cash-back incentive on digital payments.**
- Monthly cashback in the range of Rs. 50-100.
- A **vendor has the high probability to be eligible for a higher loan if he/she repays the first loan on time.**
- A vendor **does not have to provide any collateral security to access the loan.**



NCERT DROPS PERIODIC TABLE FROM CLASS X BOOK

Why in News?

The National Council for Education Research and Training (NCERT) has removed a chapter that introduces students to the Periodic Table from its Class 10 Science textbook, although a chapter on the topic remains part of the Class 11 syllabus.

About NCERT:

- The National Council of Educational Research and Training (NCERT) is an autonomous organisation of the Government of India.
- Established in 1961, it is a literary, scientific and charitable Society under the Societies Registration Act.
- Its headquarters are located at Sri Aurobindo Marg in New Delhi.
- Dr. Dinesh Prasad Saklani is Director of the council since 2022.
- The Indian Ministry of Education established the NCERT on July 27th, 1961, and the council began formal operation on September 1st, 1961.
- It was formed through the merger seven government organizations: the Central Institute of Education, the Central Bureau of Textbook Research, the Central Bureau of Educational and Vocational Guidance, the Directorate of Extension Programmes for Secondary Education, the National Institute of Basic Education, the National Fundamental Education Centre, and the National Institute of Audio-Visual Education.
- It is the **objective** of the NCERT to design and support a common system of education for the country that is national in character, as well as to enable and encourage the diverse cultural practices across the country as a whole.

विद्यया ऽ मृतमश्नुते



एन सी ई आर टी
NCERT

About Periodic Table:

- The periodic table, also known as the **periodic table of the elements**, arranges the chemical elements into rows ("periods") and columns ("groups").

- There are **seven rows, called periods, and 18 columns, called groups**, in the table.
- It is a **depiction of the periodic law**, which says that when the elements are arranged in order of their atomic numbers an approximate recurrence of their properties is evident.
- The **first periodic table to become generally accepted was that of the Russian chemist Dmitri Mendeleev in 1869**; he formulated the periodic law as a dependence of chemical properties on atomic mass.
- The ***periodic table is an organisation of all known elements in order of increasing atomic number and recurring chemical properties.***
- Elements are ordered in increasing atomic number order from left to right and top to bottom.
- **Elements of the same group will therefore have the same valence electron configuration and, as a result, identical chemical characteristics.**
- **Elements in the same period, on the other hand, will have an increasing order of valence electrons.**
- As a result, as the atom's energy level rises, so does the number of energy sub-levels per energy level.
- The table is a useful tool for people to **derive relationships between the different properties of the elements.**
- It can also **help predict the properties of new elements** that have yet to be discovered or created.
- The **IUPAC (International Union of Pure and Applied Chemistry) is responsible for maintaining the periodic table.**

	1															18		
1	H																He	
2	Li	Be										B	C	N	O	F	Ne	
3	Na	Mg										Al	Si	P	S	Cl	Ar	
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te	I	Xe
6	Cs	Ba	*	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	Tl	Pb	Bi	Po	At	Rn
7	Fr	Ra	**	Rf	Db	Sg	Bh	Hs	Mt	Ds	Rg	Cn	Nh	Fl	Mc	Lv	Ts	Og
	Lanthanides*		57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	
			La	Ce	Pr	Nd	Pm	Sm	Eu	Gd	Tb	Dy	Ho	Er	Tm	Yb	Lu	
	Actinides**		89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	
			Ac	Th	Pa	U	Np	Pu	Am	Cm	Bk	Cf	Es	Fm	Md	No	Lr	

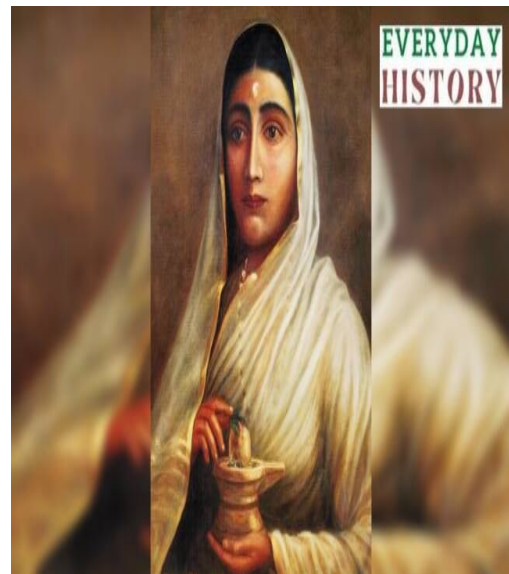
AHILYABAI HOLKAR

Why in News?

Marking the 298th birth anniversary of **Maratha queen Ahilyabai Holkar** on Wednesday (May 31), Maharashtra Chief Minister Eknath Shinde announced that his government would rename Ahmednagar by a new name, **Punyashlok Ahilya Devi Holkar**, to honor the significant contributions of Ahilyabai Holkar.

About Ahilyabai Holkar:

- Ahilya Bai Holkar (31 May 1725 – 13 August 1795) was the hereditary **noble queen of the Maratha Empire**, in early-modern India.(18th Century)
- '**Rajmata Ahilyadevi Holkar**' was her popular name.
- She was **born in in Jamkhed, Ahmednagar in 1725.**
- Her father-in-law Malhar Rao Holkar exposed her to the administrative and military forces of the State after her **husband died in the battle of Kumbher in 1754.**
- **Rani Ahilyabai became the ruler of Malwa in 1766 after her father-in-law died.**
- She **fought in numerous wars**, guarding her realm against Bhils and Gonds as a valiant warrior and great archer.
- **She defended the Malwa state against intruders and personally led armies into battle**, with Tukoji Rao Holkar as her military commander.
- She **established Maheshwar (in Madhya Pradesh) as the seat of Holkar Dynasty.**
- Ahilya Fort was built on the banks of the Narmada River in the 18th century.
- Her **efforts in promoting the textile industry in Maheshwar** is another noteworthy contribution. Today, the region is famous for its **GI-tagged Maheshwari sarees.**



- **Ahilya Bai was a great pioneer and builder of Hindu temples** who constructed hundreds of temples and Dharmashalas throughout India. For instance, she renovated the Kashi Vishwanath Temple.
- She skillfully spent government funds on forts, rest houses, wells, and roads, as well as festival celebrations and payments to Hindu temples.

About Ahmednagar:

- **Ahmednagar is a city in the Ahmednagar district, Maharashtra, India**, about 120 km northeast of Pune and 114 km from Aurangabad is the seat of its namesake district.
- **The name Ahmednagar took its name from Ahmad Nizam Shah I, who founded the town in 1494** on the site of a battlefield where he won a battle against superior Bahamani forces.
- With the breakup of the Bahmani Sultanate, **Ahmad established a new sultanate in Ahmednagar, also known as Nizam Shahi dynasty.**
- Ahmednagar has several dozen buildings and sites from the Nizam Shahi period.

MH60R

Why in News?

The Indian Navy achieved another unique feat after an MH-60 'Romeo' multi-mission helicopter landed on the indigenously-built aircraft carrier INS Vikrant.

Manufactured by Lockheed Martin Corporation is an all-weather helicopter designed to support multiple missions with state-of-the-art avionics and sensors

About MH60R:

- MH60R helicopter is a versatile platform known for its **exceptional ASW, surveillance, anti-shipping, and search and rescue capabilities.**



- MH60 R, considered one of the most advanced maritime helicopters in the world, is designed to operate from frigates, destroyers, cruisers and aircraft carriers.
- It is an all-weather helicopter designed to support multiple missions with state-of-the-art avionics/ sensors.
- Its integration with Indian Navy warships would further strengthen the Navy's capability to counter underwater threats, monitor maritime activities and conduct surveillance operations.
- The ongoing modernization of the air fleet of the Indian Navy will get a major boost with the induction of multirole helicopters procured from US defence major Lockheed Martin.

SHANAN POWER PROJECT

Why in News?

Punjab and Himachal Pradesh are set for a face-off as the 99-year lease on the British-era 110 MW Shanan hydropower project situated at Jogindernagar in Mandi district of Himachal Pradesh, presently under the control of the Punjab Government, will expire in March 2024.

About SHANAN HYDROPOWER PROJECT

- The **Shanan hydropower project in the Mandi district of Himachal Pradesh** is one of the oldest and most important hydroelectric projects in India.
- It was **built by the British in 1925.**
- The **project harnesses the power of the Uhl River, a tributary of the Beas River, and generates 110 MW of electricity.**
- This powerhouse was **constructed against the backdrop of dense deodar forests.**
- It is **one of the oldest powerhouses of the country, which used to feed the entire undivided Punjab, Lahore and Delhi before Independence.**



- The project originally was of 48 MW capacity, but the Punjab government enhanced its capacity to 60 MW in 1982. Later, 50 MW more was added to make its capacity 110 MW.
- The **project consists of a dam, a powerhouse, a reservoir and a network of canals and tunnels.**
- The project is **also a source of irrigation and drinking water for the surrounding areas.**
- The **project was leased to the Punjab Government for 99 years by Raja Joginder Singh Bahadur, the then-ruler of Mandi state.**
- After the reorganisation of states in 1966, the Shanan powerhouse was given to Punjab by the Centre as the lease agreement, signed in 1925 was yet to expire.
- The lease agreement will expire in March 2024, and **both Himachal Pradesh and Punjab are claiming their rights over the project.**
- **Himachal Pradesh** Chief Minister Sukhvinder Singh Sukhu has written to the Punjab Chief Minister and the Union Power Minister, stating that his **government will not renew or extend the lease and wants the project to be handed over to the state.**
- **Punjab,** however, is reluctant to give up the project and **may seek legal recourse to retain it.**

WORLD ENVIRONMENT DAY

Why in News?

World Environment Day is celebrated globally by millions of people every year on **June 5**. This year marks the completion of 50 years of its establishment.

The World Environment Day **theme for 2023 is "Solution to plastic pollution"** and the event was **hosted by Côte d'Ivoire.**

About World Environment Day:

- World Environment Day (WED) is **celebrated annually on 5 June** and **encourages awareness and action for the protection of the environment.**

- It is supported by many non-governmental organizations, businesses, government entities, and represents the primary United Nations outreach day supporting the environment.
- First held in 1973, it has been a platform for raising awareness on environmental issues as marine pollution, overpopulation, global warming, sustainable development and wildlife crime.



- World Environment Day was established in 1972 by the United Nations at the Stockholm Conference on the Human Environment.
- World Environment Day is a global platform for public outreach, with participation from over 143 countries annually.
- Each year, the program has provided a theme and forum for businesses, non government organizations, communities, governments and celebrities to advocate environmental causes.
- It is a reminder that people's actions on plastic pollution matters. The steps governments and businesses are taking to tackle plastic pollution are the consequence of this action.
- It is time to accelerate this action and transition to a circular economy.

DEEPPAKES

Why in News?

Recently, countries are seen limiting the production of deepfakes, or artificial-intelligence-generated video, audio and pictures that imitate real people.

About Deepfake:

- **Deepfakes are digital media – video, audio and images edited and manipulated using Artificial Intelligence.** This synthetic media content is referred to as ‘deepfakes’.
- The name ‘deepfakes’ originated in **2017** when a Reddit user by the name ‘deepfakes’, posted explicit videos of celebrities.
- The name comes from a **combination of two terms – ‘deep learning’ and ‘fake’.**
- It is used to generate fake news and commit financial fraud among other wrong doings.
- It overlays a digital composite over an already-existing video, picture, or audio; cybercriminals use Artificial Intelligence technology.
- Artificial Intelligence (AI) generated synthetic media or deep fakes offer a number of **benefits in certain areas like film production, education, artistic expression and criminal forensics.**
- **Cybercriminals are using deepfake technology to carry out phishing attacks, financial fraud, identity theft, information manipulation and also political unrest.**



LAVENDER FESTIVAL

Why in News?

Recently, the **Union Minister of Science & Technology** inaugurated the Lavender festival at Baderwah in the Jammu region.

It is the 2nd year of the lavender revolution. Baderwah has emerged as the Lavender capital of India and an Agri StartUp destination.

About Lavender Festival:

- **Union Minister Dr Jitendra Singh** inaugurated the Lavender Festival in **Baderwah, Jammu**, as part of the One Week One Lab Campaign organized by CSIR-IIIM.

- The Council of Scientific & Industrial Research- Indian Institute of Integrative Medicine (CSIR-IIIM) in supporting farmers in the cultivation of Lavender in the Baderwah, Doda district, J&K under CSIR-Aroma Mission.
- This is the 2nd year of the lavender revolution. Baderwah is hailed as the Lavender capital of India and an Agri StartUp destination.
- Lavender is a fragrant flowering plant known for its aromatic purple flowers and soothing scent. It is widely cultivated for its essential oil, which has various uses in aromatherapy, cosmetics, and culinary applications.
- Launched in 2016 by the Union Ministry of Science & Technology through the Council of Scientific & Industrial Research (CSIR) Aroma Mission.
- To support the domestic aromatic crop-based agro-economy and promote entrepreneurship
- Supports the government's policy of doubling farm incomes, provides livelihoods, promotes entrepreneurship.



UNESCO BATISSE AWARD

Why in News?

Recently, IFS officer Jagdish S Bakan won the prestigious Michel Batisse award 2023 for biosphere reserve management from United Nations Educational, Scientific and Cultural Organization (UNESCO).

About UNESCO BATISSE AWARD:

- Mr. Bakan has been chosen for the award for his work in the Gulf of Mannar Biosphere Reserve — which is endowed with rich marine biodiversity, including several species of fish, coral, birds, sea turtles, crustaceans.

- This award was instituted in 2004 following a decision of the International Coordinating Council of the Man and the Biosphere (MAB) Programme of UNESCO.
- The award is given in memory of Dr Michel Batisse for outstanding achievements in the management of the biosphere reserves in line with the recommendations of the Seville Strategy.
- **US\$12,000 award is given every two years** during the MAB Council, in memory of Dr Michel Batisse, for outstanding achievements in the management of the biosphere reserves.
- **The Michel Batisse Award only acknowledges completed work** accomplished within a Biosphere Reserve in the World Network.
- Applications that are not endorsed by a MAB National Committee or a National Commission for UNESCO are not eligible for consideration.



About Gulf of Mannar Biosphere Reserve:

- The Gulf of Mannar Biosphere Reserve covers an area of **10,500 km² of ocean**, 21 islands and the adjoining coastline.
- It is the **first Marine Biosphere Reserve in South and South-East Asia.**
- The **islets and coastal buffer zone include beaches, estuaries, and tropical dry broadleaf forests**, while the marine environments include seaweed communities, sea grass communities, coral reefs, salt marshes and mangrove forests.
- The estuaries of Thamirabarani River and Vaippar River of South India and the Malvathu Oya (Malvathu River) of Sri Lanka drain into the Gulf.



- Gulf of Mannar Biosphere Reserve (GoMBR), extends between Toothukudi & Ramanathapuram districts; joint declaration of Government of India & Government of Tamil Nadu.
- **Critically endangered Dugong dugon (sea cow)**, all protected sharks (IWPA, 1972) including whale shark, sea horses, green and hawksbill sea turtles, dolphins and sea cucumbers and several endemic species of Balanoglossus, sea grass, crabs and mangroves are found in this biosphere reserve.

PROJECT K-FON

Why in News?

The Kerala government has officially cleared the K-Fon project to provide free high speed Internet connection to over 20 lakh BPL families in the state.

About K-FON: Kerala Fibre Optic Network

- Kerala Fibre Optic Network (K-FON) is a **public-funded initiative by the Kerala government that aims to provide high-speed Internet connectivity to the whole Indian state of Kerala.**
- It is the project of the first Pinarayi Vijayan government and was **launched in February 2021 to ensure universal Internet connectivity**, addressing the issue of the digital divide, and connecting 20 lakh below-poverty-line (BPL) families in Kerala.
- The **project will also provide Net connectivity at affordable rate for families that do not fall in the BPL bracket.**
- **KFON got the Internet Service Provider Licence from the Department of Telecommunications in 2022**, making Kerala the first Indian state to have its own Internet service.
- In the first phase, **K-Fon's internet service will be available in 14,000 economically backward houses and over 30,000 government institutions.**



- The project envisages a State-wide optical fibre network to link houses and offices.
- KFON network is being **set up by the Kerala government in collaboration with the Kerala State Electricity Board and the Kerala State Information Technology Infrastructure Ltd.**
- Kerala has been declared India's first fully e-governed state, implementing the e-office system and digital literacy campaigns; **In 2019, Kerala announced that Internet connection would be a basic right in the State, becoming the first State in the country to do so.**

WORLD OCEAN DAY

Why in News?

The **World Oceans Day is celebrated every year on 8th June** to create awareness about the benefits that mankind gets from the ocean.

About:

- World Ocean Day is an **international day that takes place annually on 8 June.**
- "World Oceans Day" was **officially recognised by the United Nations in 2008.**
- The **concept was originally proposed in 1992 by Canada's International Centre for Ocean Development (ICOD) and the Ocean Institute of Canada (OIC) at the Earth Summit – UN Conference on Environment and Development (UNCED) in Rio de Janeiro, Brazil.**
- The international day supports the implementation of worldwide Sustainable Development Goals (SDGs) and fosters public interest in the protection of the ocean and the sustainable management of its resources.
- **Theme for World Oceans Day 2023 : "The Planet Ocean's Changing Tide."**



- The theme of this year's World Ocean Day emphasises the necessity of a global effort to reverse these trends and protect the invaluable resource that is our planet's oceans.
- According to the United Nations, the **oceans cover about 70 per cent of the Earth's surface and are the lifeblood of our planet.**
- They regulate the climate, provide food and oxygen, and are home to an incredible variety of marine life.
- The **ocean produces at least 50% of the planet's oxygen**, it is home to most of earth's biodiversity, and is the main source of protein for more than a billion people around the world.
- The **ocean is also key to our economy with an estimated 40 million people being employed by ocean-based industries by 2030.**
- Even with all its benefits, the **ocean is now in need of support.**
- With **90% of big fish populations depleted, and 50% of coral reefs destroyed**, we are taking more from the ocean than can be replenished.
- However, our seas face **strong threats from human activities, habitat destruction, and climate change.**

NOVA KAKHOVKA DAM

Why in News?

The Kakhovka Dam was a major hydroelectric power plant and reservoir on the Dnieper River in southern Ukraine. It was destroyed on June 6th, 2023, in an explosion that caused massive flooding and a humanitarian crisis in the war-torn region.

About Kakhovka Dam:

- The **Kakhovka Dam was a dam on the Dnieper River** (also known as Dnipro) in Kherson Oblast, **Ukraine**, completed in 1956 and destroyed in 2023.
- The **primary purposes of the dam were hydroelectric power generation, irrigation, and navigation.**
- It was the sixth and last dam in the



Dnieper reservoir cascade.

- The **reservoir supplies water for cooling the 5.7 GW Zaporizhzhia Nuclear Power Plant**, and for irrigating areas of southern Ukraine and northern Crimea via the North Crimean Canal, the Kakhovsky canal and the Dnieper–Kryvyi Rih Canal.

VARUNA STRA

Why in News?

In a significant achievement for the Indian Navy, the **Varunastra**, an indigenously developed ship-launched anti-submarine heavy-weight torpedo (HWT), has proven its capabilities through a successful test firing on June 6, 2023.

About Varunastra:

- Varunastra is a **ship-launched, heavyweight, electrically-propelled anti-submarine torpedo** capable of targeting quiet submarines, both in deep and shallow waters in an intense countermeasures environment.
- The Varunastra is an **Indian advanced heavyweight anti-submarine torpedo**.
- It is **developed by Naval Science and Technological Laboratory (NSTL) of the Defence Research and Development Organisation (DRDO) for the Indian Navy**.
- It is **manufactured by Bharat Dynamics Ltd (BDL)**.
- It is **named after a legendary weapon created by the Hindu god of the oceans, Varuna**.
- This torpedo has **more than 95 per cent indigenous content**.
- It is the **only torpedo in the world to have a GPS-based locating aid**.
- The **Government is in favour of exporting the torpedo to friendly nations including Vietnam**.



What is a Torpedo?

- A modern torpedo is **an underwater ranged weapon launched above or below the water surface, self-propelled towards a target**, and with an explosive warhead designed to detonate either on contact with or in proximity to the target.
- The term torpedo originally applied to a variety of devices, most of which would today be called mines. From about 1900, torpedo has been used strictly to designate a self-propelled underwater explosive device.
- **Torpedoes are self-propelled, underwater projectiles that can be launched from ships and aircraft.**
- They are **designed to detonate on contact or in close proximity to a target.**
- The **Indian Navy deploys its torpedoes from maritime patrol aircraft, embarked helicopters and surface/subsurface platforms.**
- It is **typically cylindrical in shape and equipped with explosives, propulsion systems, and guidance mechanisms.**



FATTAH

Why in News?

Iran claimed that it had created a hyper-sonic missile capable of travelling at 15 times the speed of sound.

About FATTAH Missile:

- **Fattah is an Iranian hypersonic medium-range ballistic missile developed by the Islamic Revolutionary Guard Corps and unveiled in 2023.**
- The new missile - called '**Fattah**,' means '**Conqueror**' in Farsi.



- This missile is hypersonic and is capable of travelling at 15 times the speed of sound.
- The said missile can acquire a speed of 5 times the speed of light and has a range of over **1400 Kms.**
- It can **travel at speeds of up to Mach 5.**
- The report also asserts that the missile can penetrate any regional missile defense system, although no evidence was provided to support this claim.

About Hypersonic Missile:

- A hypersonic weapon is a weapon capable of travelling at hypersonic speed, defined as between 5 and 25 times the speed of sound or about 1 to 5 miles per second.
- A hypersonic missile is a weapon system which flies at least at the speed of Mach 5 i.e. five times the speed of sound and is manoeuvrable.
- The manoeuvrability of the hypersonic missile is what sets it apart from a ballistic missile as the latter follows a set course or a ballistic trajectory.
- Thus, unlike ballistic missiles, hypersonic missiles do not follow a ballistic trajectory and can be manoeuvred to the intended target.
- Hypersonic weapons travel through the atmosphere and can manoeuvre midway, making detection and interception extremely challenging.
- This means radars and air defences won't be able to detect them until they're very close to them, giving them very little time to react.
- The two types of hypersonic weapons systems are **Hypersonic Glide Vehicles (HGV) and Hypersonic Cruise Missiles.**
- The HGV are launched from a rocket before gliding to the intended target while the hypersonic cruise missile is powered by air breathing high speed engines or 'scramjets' after acquiring their target.



CYCLONE BIPARJOY

Why in News?

Cyclone Biparjoy developed over the southeast Arabian Sea on 6th June 2023.

About Cyclone Biparjoy:

- The IMD data shows that cyclone Biparjoy is on course to become the longest-lifespan cyclone in the Arabian Sea. The cyclone has sustained its strength for a longer than normal duration, which is attributed to an unusually warm Arabian Sea.
- The longer a cyclonic storm remains over the sea, the more it is likely to accumulate more energy and moisture increasing its chances to become more severe leading to enhanced destruction after landfall.
- Cyclone Biparjoy was a very severe cyclonic storm that hit Gujarat and parts of Rajasthan. It caused significant damage to infrastructure, injuries and cattle deaths, but only two human fatalities.
- 'Biparjoy' was suggested by Bangladesh and the word means 'disaster' or 'calamity' in Bengali.

ABOUT TROPICAL CYCLONES:

- A tropical cyclone is a **rapidly rotating storm system** characterized by a **low-pressure center**, a closed **low-level atmospheric circulation**, **strong winds**, and a spiral arrangement of thunderstorms that produce strong winds, heavy rain and squalls.
- **Depending on its location and strength, a tropical cyclone is referred to by different names**, including hurricane , typhoon , tropical storm, cyclonic storm, tropical depression, or simply cyclone.



- Cyclone refers to their winds moving in a circle, whirling round their central clear eye, with their surface winds blowing counterclockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.
- **Pre-Conditions for Tropical Cyclones:-**
 - Large sea surface with temperature higher than 27°C
 - Presence of Coriolis force
 - Small variations in the vertical wind speed
 - Pre-existing weak low-pressure area or low-level cyclonic circulation
 - Upper divergence above the sea level system.

CANADA WILDFIRES

Why in News?

New York City's air quality is currently ranked among the worst in the world due to drifting smoke rising from **wildfires in Canada**.

According to the Canadian Interagency Forest Fire Centre, **there are 426 active fires in the country as on June 8, 2023**.

About Wildfires:

- **A wildfire is a major fire that breaks out unpredictably in combustible environments such as dry forests or bush and often burns uncontrollably over a large area and length of time.**
- **A forest fire can be triggered by natural factors such as prolonged hot, dry weather or lightning strikes, or human carelessness.**
- There are **three conditions that need to be present in order for a wildfire to burn: Fuel, Oxygen, and a Heat source.**
- **Fuel, Oxygen, and heat sources help the spreading of wildfires:**
 - **Fuel** is any flammable material surrounding a fire, including trees, grasses, brush, and even homes. The greater an area's fuel load, the more intense the fire.
 - **Air** supplies the oxygen a fire needs to burn.



- **Heat sources** help spark the wildfire and bring fuel to temperatures hot enough to ignite.
- Three types of Fires : **Crown fires, surface fires and ground fires.**

Natural Causes Of Wildfires:

- Any forest fires start from **natural causes such as lightning which set trees on fire.**
- However, rain extinguishes such fires without causing much damage. **High atmospheric temperatures and dryness (low humidity) offer favourable circumstance for a fire to start.**

Man-made Causes:

- Fire is caused when a **source of fire like naked flame, cigarette or bidi, electric spark or any source of ignition comes into contact with inflammable material.**
- Man-made causes are usually the ones that become dangerous.
- Other human-led causes are land clearing and other agricultural activities, maintenance of grasslands for livestock management, extraction of non-wood forest products, industrial development, resettlement, hunting, negligence, and arson.

BAGH PRINT

Why in News?

Madhya Pradesh Women learn to make Bagh print bags under the ‘**Safe Tourist Places project**’.

About Bagh Print:

- Bagh print is a **traditional Indian handicraft originating in Bagh, Dhar district of Madhya Pradesh, India.**
- It is the name of a **block printing technique** unique to a small village called Bagh in Madhya Pradesh.



- It is considered a 1000-year-old wooden hand-block print and is believed to be started by the Khatri community around the Indus Valley times.
- The cloth used is usually cotton and silk cloth. However, it could be Kosa silk, bamboo chicks, cotton rugs, chiffon, crepe, georgette tissue, mulberry silk etc.
- The designs are patterned by skilled artisans.
- They are created using natural dyes, which are eco-friendly and non-hazardous.
- The process of creating Bagh prints includes **pre-printing** (the washing and pre-dyeing of the fabric), **printing** (application of the design) and **post printing** (fixing the dyes and applying a fabric finish).
- On completion of the printing process, the printed fabric is subject to repeated washing in the flowing waters of the river and then dried in the sun for a specific period to obtain a fine luster.
- **This handicraft style is Geographically tagged and registered.**



AGNI PRIME

Why in News?

New Generation **Ballistic Missile ‘Agni Prime’** was successfully flight-tested by Defence Research and Development Organisation (DRDO) from Dr APJ Abdul Kalam Island off the coast of Odisha.

About AGNI PRIME:

- Agni-P or **Agni-Prime** is a **medium-range ballistic missile** being developed by India's Defence Research and Development Organisation (DRDO)
- It is a **successor for Agni-I and Agni-II missiles in the operational service of Strategic Forces Command** with significant upgrades in the form of composite motor casing, maneuverable reentry vehicle (MaRV) along with improved propellants, navigation and guidance systems.

- Agni-P is a **two-stage, surface to surface, road mobile and solid-fueled MRBM** which is transported by a truck and launched via a canister.
- It is a **ballistic missile with dual redundant navigation and guidance system.**
- It is the sixth missile in the Agni (missile) series of ballistic missile.
- In addition to the most recent navigation technologies, **the missile has new composites, propulsion systems, and inventive guidance and control methods.**
- It verified the system's precision and dependability.
- The ballistic missile Agni-I (700) will progressively be replaced by this one.
- It has a **strike range of 1000-2000 Kms.**
- **It is also a canister launch missile** like country's first Intercontinental Ballistic Missile(ICBM), Agni-V, which is in the process of induction.
- Canister launch missiles with the warhead already fitted in the missile gives the command operational flexibility to store it for a longer period.



NATIONAL TRAINING CONCLAVE

Why in News?

Prime Minister Shri Narendra Modi inaugurated the **first-ever National Training Conclave** at the International Exhibition and Convention Centre Pragati Maidan, New Delhi.

About National Training Conclave:

- As part of a vision for capacity development, the **National Programme for Civil Services Capacity Building (NPCSCB) – 'Mission Karmayogi' – was launched also launched to build the right attitude, skills and knowledge.**
- This **conclave is yet another step in similar direction.**
- The National Training Conclave is **being hosted by Capacity Building Commission.**

- **Objective :** *To foster collaboration among civil services training institutes and strengthen the training infrastructure for civil servants across the country.*
- More than 1500 representatives from training institutes, including Central Training Institutes, State Administrative Training Institutes, Regional and Zonal Training Institutes, and Research institutes participated in the conclave.
- Civil Servants from central government departments, state governments, local governments, as well as experts from the private sector took part in the deliberations.
- **This diverse gathering will foster the exchange of ideas, identify the challenges being faced and opportunities available, and generate actionable solutions and comprehensive strategies for capacity building.**
- The **conclave had eight panel discussions**, each focusing on key concerns pertinent to Civil services training institutes such as faculty development, training impact assessment and content digitisation, among others.



SVALBARD MISSION

Why in News?

Norwegian Ambassador Hans Jacob Frydenlund's visit to the ISRO headquarters last week offers an occasion to recall this challenging mission which took place 26 years ago at Ny-Alesund, Svalbard.

About Svalbard Mission:

- In 1997, 4 Scientists from Indian Space Research Organisation (ISRO) travelled to the Svalbard Rocket Range.
- Antrix had signed an agreement with the Norwegian Space Centre for the sale of a Rohini RH-300 Mk II Sounding Rocket.
- The RH-300 Mk-II was given a new name by the Norwegian Space Centre as **Isbjorn-1**, which translates literally as 'Polar Bear-I.'

- The Rohini rockets had till then flown only in the tropical hot and humid conditions in India. On the other hand, the Svalbard archipelago sits in the Arctic Ocean and temperatures were on the extremely low side.
- ISRO had shipped the RH-300 Mk-II to Norway after qualifying it for arctic weather conditions.
- However, the rocket, unfortunately, did not achieve the predicted height, rising only up to 71 km.

SOUL OF STEEL CHALLENGE

Why in News?

In an effort **to test one's high-altitude endurance**, a new challenge called "Soul of Steel" will be launched in India.

About:

- It is the **world's first self-sustained, high-altitude skill and endurance at such glaciated and snow-bound terrains.**
- A first-of-its-kind event, the **'Soul of Steel Himalayan Challenge' was recently conducted in the forward areas of the Garhwal Himalayan region.**
- The challenge supported by the Indian Army in collaboration with Conquer Land Air Water (CLAW) Global was launched by defence minister on January 14 at Dehradun.
- The campaign was initiated on the 120th Raising Year of the 9 (Independent) Mountain Brigade.
- It was **based on the lines of the 'Ironman triathlon'**, a long-distance triathlon held in Europe which tests



an individual's physical capabilities.

- The **initiative is aimed at enabling life skill training and youth development.**
- It is **also expected to boost global promotion of adventure tourism in Uttarakhand.**
- It was a unique blend of specialised skills, including high altitude mountaineering, extreme cold survival, psychological and physical endurance.
- The **challenge opened the domain of niche military skills to an average person, who wishes to challenge their physical and psychological limits.**
- It attracted interest from 1,401 (including 94 women) highly skilled athletes, adventure sports enthusiasts and armed forces aspirants.

KARI ISHAD MANGO

Why in News?

The Ishad mango, a native variety of Ankola taluk in **Uttara Kannada district of Karnataka**, has recently **received the coveted geographical indication (GI) tag.**

The **GI certificate has been issued to Matha Totagars Farmer Producer Company Limited, Ankola**, and is valid until March 1, 2032 from March 31, 2023.

About:

- According to the Geographical Indications Journal of the government, the **Kari Ishad is accepted as one of the finest quality mangoes** due to its unique aroma, luscious taste, high amount of pulp and distinctive shape, and size.
- They are **large and have an oblique to oval shape.**
- Typically, each panicle bears only one fruit, and a well-grown tree can produce up to 2,000 fruits in a season.
- However, the fruit has a short shelf life of about five days.
- The Ishad mango has two variants:
 - **Kari Ishad**, characterized by its thin skin, abundance of pulp, and sweetness,



- **Bili Ishad**, which has thick skin, less pulp, and sweetness.
- The **GI tag will help protect the identity and uniqueness of the Ishad mango, as well as promote its cultivation and marketing.**

About Geographical Indication (GI) Tag:

- A geographical indication (GI) is a name or sign used on products which corresponds to a specific geographical location or origin (e.g., a town, region, or country).
- The use of a geographical indication, as an indication of the product's source, is intended as a certification that the product possesses certain qualities, is made according to traditional methods, or enjoys a good reputation due to its geographical origin.
- The **registration of a geographical indication is valid for a period of 10 years.**
- It can be renewed from time to time for a further period of 10 years each.
- **Nodal Agency: Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry.**
- A GI tag enables the producers of such products to prevent unauthorized use of the indication by third parties who do not conform to the standards or criteria established for that product.
- Geographical Indications are covered as a **component of intellectual property rights (IPRs) under the Paris Convention** for the Protection of Industrial Property. GI is also governed by the **World Trade Organisation's (WTO's) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). (1994)**
- **In India, the Geographical Indications of Goods (Registration and Protection) Act 1999 came into force in 2003** to comply with the obligations under TRIPS. The Act provides for the registration and protection of GIs in India.
- This tag is issued by the Geographical Indication Registry under the Department of Industry Promotion and Internal Trade, **Ministry of Commerce and Industry.**
- The **first product to get a GI tag in India was Darjeeling Tea in 2004.**



Benefits of GI Tags:-

- It **preserves and promotes the cultural and historical identity of a region and its people** by highlighting their distinctive skills, traditions and heritage.
- It **increases the market value and competitiveness of the products**.
- It **ensures the quality and authenticity of the products** by preventing counterfeiting and misrepresentation by unauthorized parties who may try to imitate or exploit the reputation of the products.
- It **provides legal protection and enforcement against infringement and misuse of the indication by unauthorized parties** who may violate the rights and interests of the legitimate producers and consumers of the products.
- It **generates income and employment opportunities for the local communities** involved in the production and processing of the products by enhancing their skills, capacities and livelihoods.
- It **fosters innovation and creativity by encouraging the development and improvement of products** by incorporating new technologies, methods and standards.

E-RUPI VOUCHER

Why in News?

Recently the **RBI has expanded the scope and reach of e-RUPI vouchers.**

The RBI has **permitted non-bank Prepaid Payment Instrument (PPI) issuers to issue e-RUPI vouchers and enable the issuance of e-RUPI vouchers on behalf of individuals.**

About e-RUPI:

- The **National Payments Corporation of India (NPCI)**, which oversees the digital payments ecosystem in India, **has launched e-RUPI**, a voucher-based payments system to promote cashless transactions.
- **e-RUPI is a one-time contactless, cashless voucher-based mode of payment that helps users redeem the voucher without a card, digital payments app, or internet banking**



access .

- The user gets on his or her phone in the form of an SMS or QR code.
- They can go and redeem it at any centre that accepts it.
- **The cap on the amount for e-RUPI vouchers issued by the government has been set at Rs 1,00,000 per voucher.**
- It has been developed in collaboration with the Department of Financial Services, Ministry of Health & Family Welfare and National Health Authority.
- The central bank has also allowed the use of the e-RUPI voucher multiple times (until the amount of the voucher is completely redeemed).
- **It will deepen the penetration of digital payments in the country and a major stride towards promoting financial inclusivity.**
- It helps users without a bank account, debit /credit card, digital payments app, smart phone or internet banking access.

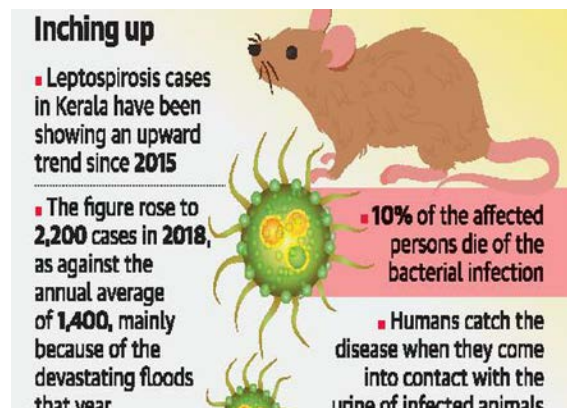
LEPTOSPIROSIS

Why in News?

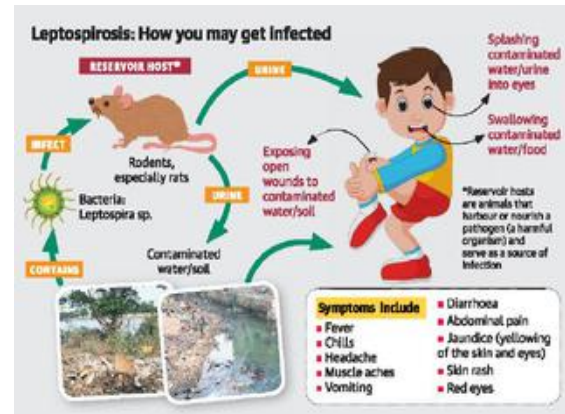
Leptospirosis is a **dangerous infectious disease** that has become significant worldwide, especially **during monsoon season**.

About Leptospirosis:

- Leptospirosis is a **zoonotic disease** i.e spread from animals to humans, **caused by bacteria of the genus Leptospira**.
- It is **commonly known as “rat fever”** and it **affects both humans as well as other animals**.
- The **infection is generally transmitted to humans by water that has been contaminated by animal urine** which comes in contact with unhealed breaks in the skin, the eyes, or with the mucous membranes.
- **Leptospira interrogans spreads under conditions of stagnant water, flood water, humidity, and proximity between man and beast.**



- The disease is more prevalent in warm, humid countries and is often associated with heavy rainfall or flooding.
- In most of the cases, leptospirosis only causes mild flu-like symptoms, such as headache, chills and muscle pain.
- However, in some cases the infection is more severe and can cause life-threatening problems, including organ failure and internal bleeding.
- It is estimated to affect around 1.03 million people annually, resulting in approximately 60,000 deaths.
- Severe form of leptospirosis is known as Weil's disease.
- Leptospirosis is often misdiagnosed due to its symptoms resembling those of dengue, malaria, and hepatitis.
- Limited access to reliable diagnostics, lack of awareness among physicians, and insufficient environmental surveillance further contribute to inaccurate reporting of cases.
- Proper waste management, improved sanitation facilities, and control of stray animals is crucial in preventing the disease.



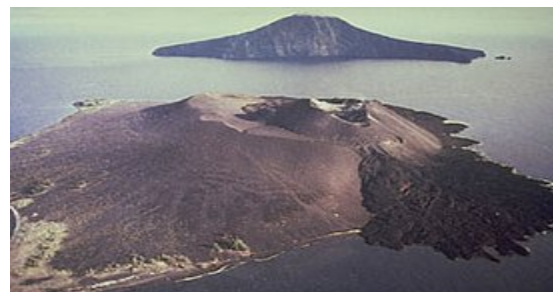
ANAK KRAKATAU VOLCANO

Why in News?

Anak Krakatau volcano recently erupted in Indonesia.

About:

- Anak Krakatoa is a volcanic island in Indonesia.
- It has erupted, sending ash up to 3 kilometres into the air.
- The volcano, located in the Sunda Strait between Java and Sumatra islands,



erupted in 2018 that caused a deadly tsunami.

- On 29 December 1927, Anak Krakatoa first emerged from the caldera formed in 1883 by the explosive volcanic eruption that destroyed the island of Krakatoa.
- There has been sporadic eruptive activity at the site since the late 20th century, culminating with a large underwater collapse of the volcano that caused a deadly tsunami in December 2018.

MOUNT MAYON VOLCANO

Why in News?

Around 13,000 people have been evacuated from the northeast **Philippines as the country's most famous volcano, Mayon, continued to burst lava.**

The volcano has been gradually expelling lava down its slopes, raising concerns about the potential for a violent and life-threatening eruption.

About:

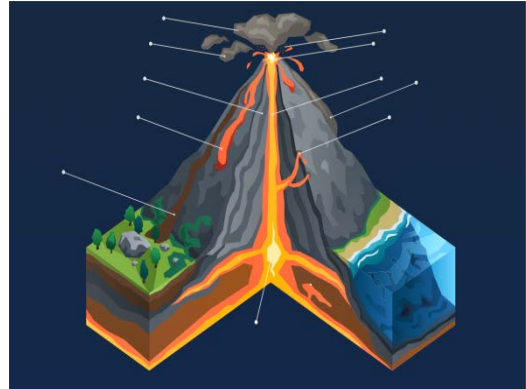
- The **Philippines is an archipelago located in Southeast Asia** in the western Pacific Ocean.
- It is **part of the Pacific "Ring of Fire,"** a region known for its high volcanic and seismic activity due to the presence of tectonic plate boundaries.
- The Philippines is home to a significant number of volcanoes, with a total of **24 active volcanoes.**
- **Mayon Volcano is one of the most famous and active volcanoes** in the Philippines.
- Its name is derived from the local word for beautiful lady, daragang Mayon.
- It is **called the world's most perfect volcanic cone because of the symmetry of its shape.**
- It lies in the Pacific Ring of Fire region, a major area in the basin of the Pacific Ocean where a large number of earthquakes and volcanic eruptions occur.



- Mayon has a **long history of eruptions**, with notable eruptions occurring in 1616, 1766, 1814, and **2018**.

ABOUT VOLCANOES:

- A volcano is a **rupture in the crust of a planetary-mass object**, such as Earth, **that allows hot lava, volcanic ash, and gases to escape from a magma chamber below the surface.**
- On Earth, volcanoes are most often found where tectonic plates are diverging or converging, and most are found underwater.
- A volcano is a vent or fissure in Earth's crust through which lava, ash, rocks, and gases erupt.
- An **active volcano is a volcano that has erupted in the recent past.**
- Material that flows to or reaches the ground comprises lava flows, volcanic bombs, pyroclastic debris, dust, ash, and gases.
- The gases may be sulfur compounds, nitrogen compounds, and trace amounts of argon, hydrogen, and chlorine.
- **Volcanoes are classified as active, dormant, or extinct.**
 - Active volcanoes have a recent history of eruptions; they are likely to erupt again. Dormant volcanoes have not erupted for a very long time but may erupt at a future time.
 - Extinct volcanoes are not expected to erupt in the future.



TAMIL NADU GOVERNMENT WITHDRAWS CONSENT ACCORDED TO CBI

Why in News?

The state government of Tamil Nadu has **decided to withdraw the general consent granted to the Central Bureau of Investigation (CBI)** to conduct investigations in the state.

About 'General Consent' given to CBI (Central Bureau of Investigation):

- The CBI is governed by The Delhi Special Police Establishment (DSPE) Act of 1946, which requires the investigative agency to obtain the consent of state governments before it can investigate a crime in a particular state.
- Section 6 of The DSPE Act (“Consent of State Government to exercise of powers and jurisdiction”) says: “Nothing contained in section 5 (titled “Extension of powers and jurisdiction of special police establishment to other areas”) shall be deemed to enable any member of the Delhi Special Police Establishment to exercise powers and jurisdiction in any area in a State, not being a Union territory or railway area, without the consent of the Government of that State”.
- In other words, **without a state government’s consent, the CBI cannot exercise its power within that state's borders.**
- The CBI’s position is in this respect different from that of the National Investigation Agency (NIA), which is governed by The NIA Act, 2008, and has jurisdiction all over the country.



What is the general consent for CBI?

- Consent given by a state government to the CBI can come in two forms, either **case-specific, or 'general'**.
- General consent, as the name indicates, allows the CBI to operate seamlessly within states.
- When a state gives a general consent to the CBI for probing a case, the agency is not required to seek fresh permission every time it enters that state in connection with investigation or for every case.
- Withdrawal of general consent also means that the CBI will not be able to register any fresh case involving central government officials or private persons in a particular state without prior permission of that state government.

- The CBI can continue to investigate cases in a state registered prior to the withdrawal of general consent.
- In contrast, if the CBI does not have the general consent of a state government, it is required to apply for consent on a case-by-case basis and cannot act before the consent is given.
- If specific consent is not granted, the CBI officials will not have the power of police personnel when they enter that state.

About CBI: Central Bureau of Investigation:

- The **Central Bureau of Investigation (CBI)** is the **premier investigating agency of India**.
- It provides assistance to the Central Vigilance Commission and Lokpal.
- It operates under the jurisdiction of the **Ministry of Personnel, Public Grievances and Pensions**.
- The CBI is not a statutory body but derives its power to investigate from the **Delhi Special Police Establishment Act, 1946**.
- The establishment of the CBI was **recommended by the Santhanam Committee on Prevention of Corruption (1962–1964)**.
- Originally set up to investigate bribery and governmental corruption, in 1965 it received expanded jurisdiction to investigate breaches of central laws enforceable by the Government of India, multi-state organised crime, multi-agency or international cases.
- **CBI is exempted from the provisions of the Right to Information Act.**
- CBI is India's officially designated single point of contact for liaison with the Interpol.
- The CBI headquarter is located in CGO Complex, near **Jawaharlal Nehru Stadium in New Delhi**.



Functions:

- **Investigate cases connected to infringement of economic and fiscal laws, i.e., breach of laws concerning customs and central excise, export and import control,**

income tax, foreign exchange regulations, etc. But cases of this nature are taken up by the CBI either at the request of the department concerned or in consultation with the concerned department.

- **Investigate crimes of a serious nature, that have national and international ramifications**, and committed by professional criminals or organised gangs.
- **To coordinate the activities of the various state police forces and anti-corruption agencies.**
- At the behest of a state govt., the CBI can also take up any case of public importance and investigate it.
- **Maintaining crime statistics and disseminating criminal information.**

1ST JANJATIYA KHEL MAHOTSAV

Why in News?

The Prime Minister, Shri Narendra Modi has expressed happiness on the **organization of the first Janjatiya Khel Mahotsav at the Kalinga Institute of Social Sciences, Bhubaneswar.**

About Janjatiya Khel Mahotsav:

- It was a **coordinated effort** between the **Ministry of Culture, the Odisha Government, and KIIT University.**
- It witnessed the assemblage of 5,000 tribal athletes and 1,000 officials from 26 states.
- Janjatiya Khel Mahotsav **witnessed an incredible display of talent and sportsmanship** as tribal athletes from across India came together to compete in various disciplines.
- **Odisha emerged as the undisputed champion in the men's and women's divisions**, cementing their stature as a sporting powerhouse.
- Karnataka showcased first runners-up position in the overall standings.



- Jharkhand showcased their talent as well, securing the second runners-up position, further adding to the excitement and intensity of the event.
- **Janjatiya Khel Mahotsav not only celebrated sports but also served as a platform to promote tribal sports and unity.**
- It provided an opportunity for athletes from diverse backgrounds to showcase their skills and foster a sense of camaraderie among the participating states.

W20 SUMMIT

Why in News?

Recently, as a part of India's G20 Presidency, the Women 20 (W20) Summit with the theme 'Women-Led Development- Transform, Thrive and Transcend' held in Mahabalipuram, Tamil Nadu.

About Women 20 (W20) Summit:

- The Women 20 (W20) is the **official G20 engagement group.**
- It was **created in 2015 under Turkey's Presidency of G20**, with the objective of focusing on gender equity.
- The primary **objective of W20 is women's empowerment and advocating for women's rights, raising women's voices in society.**
- Theme of W20 Summit: **'Women-Led Development- Transform, Thrive and Transcend'.**
- The summit aimed to celebrate the power of women empowerment and address key issues related to economic empowerment, trade and investment, and care economy.
- **Key Priorities:** India's W20 agenda focuses on five key priorities: **Women's Entrepreneurship, Grassroots Women's Leadership, Bridging the Gender Digital Divide, Education and Skill Development, and Climate Change.**



Highlights of the Summit:

- **Discussions on breaking the invisible barriers and biases that prevent women from reaching higher positions and leadership roles** in various fields were held.
- Participants have discussed systemic barriers, such as **lack of access to credit, limited property rights, and discriminatory practices**, which hinder women's economic empowerment.
- Government initiatives such as **Self Help Groups (SHGs), PM Mudra Scheme and GeM portal which allow women access to market and finance** are highlighted.
- **Gender disparities in economic participation are highlighted** as women often face inequalities in accessing economic opportunities, including financial resources, markets, and trade networks.
- **Celebration of strength, resilience, and progress in women's empowerment was witnessed .**

GANDHI PEACE PRIZE

Why in News?

Gita Press, Gorakhpur, has been **selected for the Gandhi Peace Prize for the year 2021.**

The prize was announced by the Ministry of Culture.

About GANDHI PEACE PRIZE:

- The **International Gandhi Peace Prize**, named after Mahatma Gandhi, is awarded **annually by the Government of India.**
- As a tribute to the ideals espoused by Gandhi, **the Government of India launched the International Gandhi Peace Prize in 1995 on the occasion of the 125th birth anniversary of Mohandas Gandhi.**
- This is an annual award given to individuals and institutions for their contributions towards social, economic and political transformation through non-violence and other Gandhian



methods.

- The **award carries 1 crore in cash** (convertible in any currency in the world), a **plaque** and a **citation**.
- It is **open to all persons regardless of nationality, race, creed or gender.**
- A **jury** consisting of the **Prime Minister of India, the Leader of the Opposition in the Lok Sabha, the Chief Justice of India, Speaker of the Lok Sabha and two other eminent person** appointed every 3 years eligible for reappointment decides the awardee each year.

About GITAPRESS:

- Gita Press is an **Indian books publisher** reputed to be the **world's largest publisher of Hindu religious texts**.
- It is **located in Gorakhpur city of India's Uttar Pradesh state.**
- It was **founded in 1923** by **Jaya Dayal Goyanka and Ghanshyam Das Jalan** for promoting the principles of Sanatana Dharma.
- The **Gita Press archives contain over 3,500 manuscripts** including over 100 interpretations of the Bhagwad Gita.
- **Gita Press also runs a monthly magazine called Kalyan**, which covers topics such as spirituality, culture, history, ethics and morality.



THOL PAVAI KOOTHU PUPPETRY

Why in News?

Tamil Nadu puppeteer **B. Muthuchandra Rao** has been **invited to perform at the Fetna 36th Convention in the United States** (Federation of Tamil Sangams of North America (FeTNA)).

About THOL PAVAI KOOTHU PUPPETRY:

- Tholpavakoothu is a form of shadow puppetry that is practiced in Kerala, Tamil Nadu, India.
- It is performed in temples or in villages in specially built theatres.
- This form of art is especially popular in the Madurai and nearby districts of Madurai in TamilNadu and also in palakkadThrissur and Malappuram districts of Kerala.
- Tholpavaikoothu is a **compound word of three Tamil terms, 'thol', meaning leather, 'pavai', meaning doll, and 'koothu', meaning the play or drama.**
- The performances typically tell stories from Hindu mythology or from the lives of ordinary people.
- The **puppets are made from wood and cloth, and they are manipulated by strings.**
- The **puppets used in Tholpavakoothu used to be made out of deerskin but are now typically made from goatskin.**
- The lead puppeteer is usually a 'pulavar' which is an honorific given to a puppeteer who is also a scholar.
- Pulavars undergo intensive training in puppetry and have a deep knowledge of Malayalam, Tamil and Sanskrit. Puppeteers have to study the Kamba Ramayana and be well read in the vedas and puranas, Ayurveda.
- **Tholpavakoothu, like many traditional art forms, has been facing the threat of extinction** due to the arrival of alternate platforms of entertainment such as television and cinema and due to changing cultural values.



MINIMUM SUPPORT PRICE (MSP)

Why in News?

The **Minimum Support Price (MSP) hike for this year's summer (kharif) season crops** has been announced **by the government of India.**

This decision is aimed at ensuring remunerative prices to the growers for their produce and encouraging crop diversification.

About Minimum Support Price (MSP):

- The **minimum support price (MSP)** is an advisory price signal that is part of a larger set of agricultural policies in parts of India.
- This informal "support" price is recommended by the government and aims to safeguard the farmer to a minimum profit for the harvest while at the same time increasing food security in the country.
- **MSP is the price at which the government procures farmers' produce,** servng as a tool to stabilize production and control consumer prices.
- MSP was initially an incentive for farmers to adopt technology with an aim of increasing the productivity of agricultural land in the 1960s, however in the 2000s it is seen as a market intervention and farmer income scheme.
- The Indian government sets the price for about two dozen commodities twice a year.
- **MSP is fixed on the recommendations of the Commission for Agricultural Costs and Prices (CACP),** an apex advisory body for pricing policy under the Ministry of Agriculture.
- CACP in turn recommends the pricing according to a diverse range of factors including national requirements, available resources, farmer wages, cost of living and product competitiveness.
- **Food Corporation of India (FCI) and the National Agricultural Co-operative Marketing Federation (NAFED)** are involved in implementing the MSP at the state level.
- Despite its intended benefits, **farmers face challenges such as delayed procurement, exploitation by commission agents offering prices below MSP, and lack of awareness.**
- Farmers demand a legal status for MSP and an assured market mechanism to ensure their produce is purchased at the MSP.



RAINBOW DIET CAMPAIGN

Why in News?

The ICAR-Central Tuber Crops Research Institute (CTCRI) plans to expand its tuber-based “rainbow diet” campaign to more areas in India with significant tribal populations.

About Rainbow Diet Campaign:

- It is **launched by ICAR-Central Tuber Crops Research Institute (CTCRI).**
- It is **aimed to popularize biofortified tubers and value-added products made from them** among the tribal communities for tackling malnutrition and ensuring a balanced diet.
- **A typical “rainbow diet” is a meal plan with different coloured fresh fruits and vegetables.** The colors in these natural foods are due to **specific phytonutrients.**
- **Tuber crops are plants that produce edible underground storage structures called tubers.**
- These tubers serve as a source of nutrients and energy for the plant.
- **Examples of tuber crops include potatoes, sweet potatoes, yams, and cassava.**
- The initiative focuses on popularizing orange-fleshed sweet potato, purple-fleshed sweet potato, and purple-fleshed yam, which are rich in beneficial compounds.



PADEL

Why in News?

Padel, a racket sport played in over 90 countries, is gaining attention around the world.

About Padel:

- Padel sometimes called Padel Tennis, is a **racket sport of Mexican origin**, typically **played in doubles on an enclosed court** slightly smaller than a doubles tennis court.
- Padel is **played two-on-two**, and **all serves are underhand**. Players can use the turf court and glass walls to their advantage.
- Padel **utilizes a turf court and glass walls**, allowing players to use them strategically.
- It is **similar to tennis but played on a smaller court with glass walls.**
- The objective is to hit the ball over the net, using an underhand serve, and make it bounce off the walls before the opponents can return it.
- **The game combines elements of tennis and squash.**
- Although **Padel shares the same scoring system as tennis**, the rules, strokes, and technique are different.
- The **balls used are similar but with a little less pressure.**
- The **height of the ball being served must be at or below the waist level.**



CHASMA NUCLEAR POWER PROJECT

Why in News?

China and Pakistan recently signed an agreement to build a 1,200-megawatt nuclear power plant in Punjab's Mianwali district at Chashma.

About:

- It is a **commercial nuclear power plant** which is **under International Atomic Energy Agency (IAEA) monitoring and safeguards.**
- In November 2006, the International Atomic Energy Agency approved the construction of new nuclear power



plants in Pakistan with the help of China to meet the increasing demands of energy.

ABOUT IAEA: International Atomic Energy Agency

- The International Atomic Energy Agency (IAEA) is **an intergovernmental organization that seeks to promote the peaceful use of nuclear energy and to inhibit its use for any military purpose, including nuclear weapons.**
- It was **established in 1957** as an autonomous organization within the United Nations system
- Though governed by its own founding treaty, the organization **reports to both the General Assembly and the Security Council of the United Nations**
- **Headquarter: UN Office at Vienna, Austria.**
- The IAEA was created in response to growing international concern toward nuclear weapons, especially amid rising tensions between the foremost nuclear powers, the United States and the Soviet Union.
- The address was known as **'Atoms for Peace'** and **this was the organisation's first name when it was formally established in 1957.**
- It maintains several programs that encourage the development of peaceful applications of nuclear energy, science, and technology; provide international safeguards against misuse of nuclear technology and nuclear materials; and promote and implement nuclear safety (including radiation protection) and nuclear security standards.
- The **organization also conducts research in nuclear science and provides technical support and training in nuclear technology to countries worldwide, particularly in the developing world.**
- **India became a member in 1957 itself.**



BLUE OCEAN EVENT

Why in News?

A new study suggests that the Arctic Ocean could be ice-free in summer by the 2030s, even with efforts to reduce emissions.

About:

- A **“blue ocean event”** refers to a situation in which the Arctic Ocean becomes ice-free during the summer, with the sea ice area dropping below 1 million square kilometres.
- It **signifies the absence of sea ice at the top of the world** and is considered a significant and alarming consequence of climate change.
- This threshold is used mainly because older, thicker ice along parts of Canada and northern Greenland is expected to remain long after the rest of the Arctic Ocean is ice-free.
- The **event represents a critical tipping point in the Arctic system**, as more sea ice melts, it reduces the amount of sunlight reflected into space, leading to further warming and ice loss.



NATIONAL FLORENCE NIGHTINGALE AWARD

Why in News?

President of India Smt. Droupadi Murmu conferred the National Florence Nightingale Awards for the year 2022 and 2023 to the nursing professionals at the Rashtrapati Bhavan.

About National Florence Nightingale Award:

- The Florence Nightingale Medal is an international award presented to those distinguished in nursing and named after British nurse Florence Nightingale.

- The medal was established in 1912 by the International Committee of the Red Cross (ICRC)
- It is the highest international distinction a nurse can achieve.
- It is awarded to nurses or nursing aides for "exceptional courage and devotion to the wounded, sick or disabled or to civilian victims of a conflict or disaster" or "exemplary services or a creative and pioneering spirit in the areas of public health or nursing education".



- The **National Florence Nightingale Award** was instituted by the Ministry of Health and Family Welfare.
- The National Florence Nightingale Award was **instituted in the year 1973**.
- The National Florence Nightingale Award are given as a mark of recognition for the meritorious services rendered by the nurses and nursing professionals to the society.
- Apart from the Nursing Personnel working in the State, Central, Autonomous institutions, the Nursing Personnel working in Private, Missionary and Voluntary Organizations are also eligible for the National Florence Nightingale Nurses Award and their application may also be forwarded after considering it in State Level Selection Committee in accordance with the laid down procedure, subject to their fulfilling the requirements.
- The **award consists of Cash Award of Rs. 50000/-, a certificate and a medal**.

KALASA-BANDURI PROJECT

Why in News?

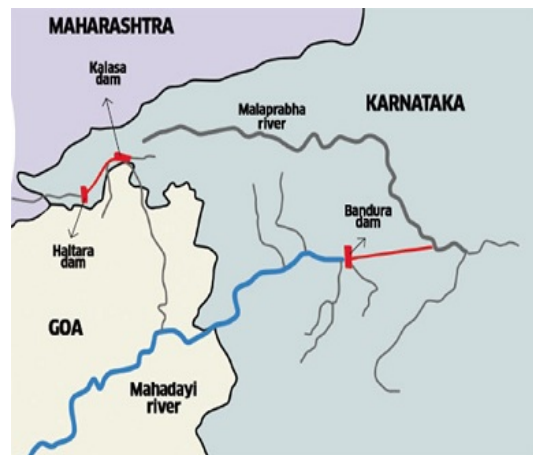
The **Karnataka government has submitted a revised proposal to the National Wildlife Board (NWB) and the Ministry of Environment, Forest and Climate Change (MoEFCC) for obtaining clearance to use 26.92 hectares of forest land for the Kalasa-Banduri project.**

About Kalasa- Banduri Project:

- The Kalasa Banduri Nala project involves the construction of barrages against the Kalasa and Banduri streams, tributaries of the Mahadayi.
- Though the project was first proposed in the early 1980s, it has remained on paper owing to a dispute between Karnataka, Goa and Maharashtra.
- The Kalasa-Banduri project aims to divert water from the Mahadayi River to meet the drinking water needs of several districts in Karnataka.
- However, the project has faced opposition from the governments of Goa and Maharashtra, who recently issued a joint statement pledging to fight against Karnataka's water diversion plans.

MAHADAYI RIVER:

- The Mahadayi river rises in Karnataka (Western Ghats) from the Bhimgad Wildlife Sanctuary in Khanapur taluk of Karnataka's Belagavi district.
- It stretches 111km in length.
- Flowing westward, it enters Goa. Over two-thirds of the river's stretch lies in Goa (76km).
- It is known as River Mandovi in Goa.
- Most of Goa's 11 rivers contain salt water and Mandovi ensures water security as well as being an important place to source fish for the state.
- It joins the Arabian Sea at Panaji, Goa.
- Flowing westward, it enters the north Goa districts.
- Distribution: Of the total area, 375 sq km lies in Karnataka, 77 sq km in Maharashtra and remaining 1580 sq km is in Goa.
- The Salim Ali Bird Sanctuary is located on the island of Chorao in the Mandovi River.
- Major Tributaries: Kalasa Nala, Banduri Nala, Surla Nala, Haltar Nala, Poti Nala, Mahadayi Nala, Pansheer Nala, Bail Nala, Andher Nala.



MQ-9B DRONES

Why in News?

Recently, **India's Ministry of Defence has granted approval for the procurement of 31 MQ-9B** (16 Sky Guardian and 15 Sea Guardian) armed drones **from the United States.**

About:

- The General Atomics **MQ-9 Reaper** also called Predator B is an unmanned aerial vehicle (UAV) **capable of remotely controlled or autonomous flight operations.**
- It has been developed by General Atomics Aeronautical Systems (GA-ASI) primarily for the United States Air Force (USAF).
- The **MQ-9 is the first hunter-killer UAV designed for long-endurance, high-altitude surveillance.**
- The MQ-9 is a larger, heavier, more capable aircraft than the earlier General Atomics MQ-1 Predator and can be controlled by the same ground systems.
- The Sky Guardian variant has a wingspan of 79 feet and can carry a payload of 2,155kg on nine hardpoints.
- The Sea Guardian variant can fly over the horizon via satellite for more than 30 hours and has advanced intelligence, surveillance and reconnaissance (ISR) capabilities.
- The **MQ-9B has two variants — SkyGuardian and its sibling SeaGuardian. The Indian Navy has been operating the MQ-9B Sea Guardian since 2020.**
- **Features:**
 - The drones, with an **endurance of over 27 hours and an operating capability of up to 50,000 feet**, will strengthen India's defence capabilities.
 - It can operate at over 50,000 feet.
 - **It can support land, maritime surveillance, anti-submarine warfare, anti-surface warfare, strike, electronic warfare and expeditionary roles.**



- It is equipped with advanced features such as automatic take-off and landing, detect and avoid system, anti-spoofing GPS, and encrypted communication links.

GANGOTRI NATIONAL PARK

Why in News?

Gangotri National Park (GNP) in Uttarakhand, **has decided to transfer approximately 50 hectares of land to the Army and Indo-Tibetan Border Police (ITBP)** for the development of new bunkers and border outposts near the Line of Actual Control (LAC).

About Gangotri National Park:

- Gangotri National Park is a **national park in Uttarkashi District of Uttarakhand** in India, **covering about 2,390 km².**
- This national park was **established in 1989.**
- It is **located in the upper catchment of the Bhagirathi River and includes Gaumukh at Gangotri Glacier**, the source of the river Ganga.
- The **park serves as a connecting link between Govind National Park and Kedarnath Wildlife Sanctuary.**
- The mountains in the park are part of the Gangotri Group of the Garhwal Himalayas, which are a subrange of the eastern Himalayas.
- **Major peaks within the park include Chaukhamba I, Satopanth, Chaukhamba II, Chaukhamba III, and Kedarnath Main.**
- Western Himalayan **subalpine conifer forests dominate the lower elevation landscapes.** These forests are filled with fir trees intermixed with deodar, oak, spruce, and rhododendrons trees.
- **Higher elevations in the park are home to Western Himalayan alpine shrubs.** Alpine meadows are also common beneath the massive glaciers.
- It is **home to the ever-elusive snow leopard.**



- Other species include brown bear, blue sheep, musk deer, Asian black bear, and the Himalayan tahr, among others.
- **The northeastern section of the park forms the international boundary of India and Tibet (China).**

About Indo-Tibetan Border Police (ITBP):

- The Indo-Tibetan Border Police (ITBP) is a **border guarding force of India deployed along its borders with Tibet Autonomous Region.**
- It is **one of the seven Central Armed Police Forces, established in 1962 in the aftermath of the Sino-Indian War of 1962.**
- The **primary role of the ITBP is to patrol the 3,488 km long India-China border** from the Karakoram Pass in Ladakh to Diphu La in Arunachal Pradesh.
- **The ITBP conducts long and short range patrols.**
 - to keep an effective vigil on the inaccessible and uninhabited areas located near the border.
 - to carry out surveillance on the northern borders, detect and prevent border violations, and promote the feeling of security among the regional population. Check trans-border smuggling, crimes and illegal immigration.
 - Providing security to critical installations, banks, and protected individuals; restoring and maintaining order in any location in the case of a disturbance.
- **ITBP units have been deployed across the country for a variety of internal security missions,** including counterinsurgency operations in Punjab, Jammu and Kashmir, Arunachal Pradesh, Sikkim, and other areas affected by left-wing extremism.
- **Disaster rescue is the other major role of the ITBP.**
- **It is the first responder for natural disasters in the Himalayas** and has 8 Regional Response Centres in Himachal Pradesh, Uttarakhand and Northeast India.



SAO JOAO FESTIVAL

Why in News?

Sao Joao festival is **recently celebrated in Goa.**

About Sao Joao Festival:

- San Juanv or São João is **an annual Catholic religious festival celebrated on 24th June in Goa, India.**
- According to tradition, after attending Mass, young Goan Catholic men leap into and swim in local wells, streams, and ponds as a tribute to Saint John the Baptist.
- This festival is marked by young men in Goa jumping into wells to retrieve the gifts thrown in by the villagers.
- Held at the beginning of the monsoon season in Goa, it witnesses people of all ages jumping into wells, ponds and streams.
- **Feni (a spirit produced exclusively in Goa), overflows during the occasion.**
- **Colorful boat races are organized** in Soilom, a village in North Goa's Bardez taluka. However, the festival of Sao Joao is not celebrated with the same enthusiasm over all of Goa.
- In the south, the celebrations take a somber tone, while in the North, particularly Siolim, Anjuna, Candolim, Calangute and Assagao, celebrations are accompanied by celebrations and merriment.



AMBUBACHI MELA

Why in News?

The Ambubachi Mela 2023, a **four-day-long festival, started on June 22 at the Kamakhya temple in Guwahati.**

About Ambubachi Mela:

- The Ambubachi Mela is an annual Hindu mela (gathering) held at Kamakhya Temple in Guwahati, Assam.
- This yearly mela is celebrated during the monsoon season that happens to fall during the Assamese month Ahaar, around the middle of June when sun transit to the zodiac of Mithuna, when the Brahmaputra river is in spate.
- During this time Brahmaputra River near the temple turns Red for three days.
- The Mela marks the annual menstruation of the presiding Goddess in the Kamakhya Temple.
- Kamakhya is one of the 51 Shakti Peethas, representing a body part of Sati, Lord Shiva's companion.
- Ambubachi Mela is the celebration of the yearly menstruation course of goddess Maa Kamakhya.
- It is believed that during this time, the goddess undergoes her menstrual cycle, and the temple remains closed for three days.
- The fair is also known as Ameti or Tantric fertility festival, as it is closely associated with the Tantric Shakti cult prevalent in eastern parts of India.



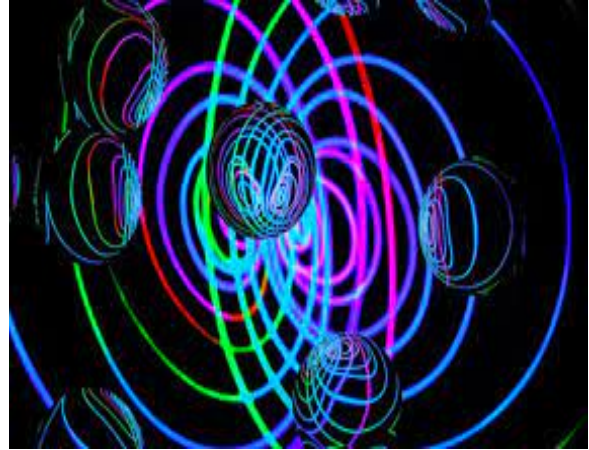
CHIRAL BOSE

Why in News?

- Physicists from the US and China have claimed that they have found an entirely new state of matter.
- The *Chiral Bose-Liquid state* may be an entirely new state of matter.

About Chiral Bose:

- The **Chiral-Bose liquid state** is formed by bringing two layers of a special material very close together at absolute zero.
- Usually matter exists in solid, liquid or gas forms.
- At temperatures approaching absolute zero, or the world within the atom, things are very different.
- In these “quantum” states, matter behaves in ways quite different from the solid, liquid, and gaseous states.
- Under frustrated quantum systems, where infinite possibilities result from the interaction of particles.
 - Researchers used a **bi-layer semiconducting device**.
 - The **top layer is electron-rich**, and these electrons can move freely **and the bottom layer is filled with “holes,”** or places that a roving electron can occupy.
 - **Then the two layers are brought extremely close together.**
 - The machine is then triggered to create a local imbalance resulting in electrons not having enough holes to fill and this kicks off the novel state called the chiral Bose-liquid state.
 - **In this state, electrons can be frozen into predictable patterns, making them resilient to changes in spin** i.e a defining characteristic of subatomic particles and even have electrons synchronise their movements.
 - **It is very difficult to create such states of matter** but going ahead may be used to fashion novel digital encryption systems.



GLOBAL LIVEABILITY INDEX

Why in News?

The Economist Intelligence Unit (EIU) has released its ranking of the “Most Liveable Cities in the World 2023”

Highlights of the report:

- **Top cities to live: Vienna (Austria), Copenhagen (Denmark), Melbourne and Sydney (Australia)**

- **Vienna, Austria**, has been named the most livable city for the second consecutive year due to its exceptional quality of life, including stability, infrastructure, education, healthcare, and cultural offerings.
- Copenhagen, Denmark, secured the second position, followed by Melbourne and Sydney in Australia.
- **Bottom 3 Liveable cities: Algiers (Algeria), Tripoli (Libya) and Damascus (Syria).**
 - Damascus was ranked the least livable due to civil unrest and conflicts
 - **From India, New Delhi and Mumbai are at 141st position and Chennai at 144th. Ahmedabad and Bengaluru are ranked 147 and 148.**
 - The index score increased from the previous year, reflecting global recovery from the pandemic, although stability experienced a slight decline.
 - **Western European cities slipped in rankings due to increased instances of workers' strikes failing to "match gains" made by cities in Asia and the Middle East.**
 - The cities which are plagued by ongoing civil unrest and military conflicts, amongst other issues, remained at the bottom of the list.

About EIU: Economist Intelligence Unit

- The **Economist Intelligence Unit (EIU)** is the **research and analysis division of the Economist Group**, providing forecasting and advisory services through research and analysis, such as monthly country reports, five-year country economic forecasts, country risk service reports, and industry reports.
- The EIU provides country, industry, and management analysis worldwide and incorporates the former Business International Corporation, a UK company acquired by its parent company in 1986.
- The **EIU has its main offices in four cities—London, New York, Hong Kong and Dubai.**



JOHA RICE

Why in News?

Joha Rice, an aromatic variety of rice cultivated in Assam can prevent diabetes, claims study.

About:

- The **scientists** Rajlakshmi Devi and Paramita Choudhury in their research explored the Joha rice's nutraceutical properties or the physiological benefit or its protective features against chronic disease.
- The researchers through vitro laboratory analysis found that the **Joha rice had two unsaturated fatty acids.** These are **linoleic acid (omega-6)** and **linolenic (omega-3)** acids which are basically fatty acids that the human body can't produce and they greatly assist in maintaining various physiological conditions.
- **Omega-3 fatty acid prevents several metabolic diseases such as diabetes, cardiovascular diseases, and cancer.**
- During the experiment, **it was found that Joha was effective in lowering the blood glucose and preventing diabetes onset in diabetic rats.**
- Going further, the scientists also discovered that scented **Joha rice has a more balanced ratio of omega-6 to omega-3** in comparison to the widely consumed non-scented variety.
- This rice has several additional benefits. **It is rich in several antioxidants, flavonoids, and phenolics.**

About JOHA RICE:

- **Joha rice variety is a short-grain winter paddy** which is well known for its distinct and significant aroma and delicate and excellent taste.
- Joha rice is an **aromatic rice variety grown in northeastern India.**



- **Assam is the largest cultivator of this rice** and it is widely cultivated in Garo Hills.
- Traditional claims suggest that Joha rice consumers have a lower risk of diabetes and cardiovascular diseases.
- In Garo Hills it's widely cultivated and it is known as Jaha rice or locally known as mi Jaha.
- There are **various traditional types of joha rice available in Assam.**
- **Kola Joha, Boga Joha, Rampal Joha, Kon Joha, Manikimodhuri Joha, Keteki Joha, Tuloshi Joha, Govinda Tuloshi Joha and Ghuguli Joha.**

RANI DURGAVATI

Why in News?

The Shivraj Singh Chouhan-led BJP government in Madhya Pradesh launched the six-day Rani Durgavati Gaurav Yatra on Thursday (June 22) and marked June 24 – when the queen is believed to have died while fighting the Mughals in the mid-16th century – as a day of sacrifice.

About Rani Durgavati:

- **Rani Durgavati (5 October 1524 – 24 June 1564) was the ruling Queen of Gondwana** from 1550 until 1564.
- Rani Durgavati, **born in 1524 in Mahoba's Chandela dynasty** (present-day Uttar Pradesh, near the border with Madhya Pradesh), was a symbol of India's self-determination.
- Chandelas were known for building the famous Khajuraho temples in the 11th century.
- **She married Dalpat Shah, the son of Gond King Sangram Shah, and ruled the kingdom of Garha-Katanga after the death of her husband in 1550 with great vigor and courage.**
- **The Kingdom of Garha-Katanga included the regions of Narmada Valley and parts of Northern Madhya Pradesh.**



- Gond tribe is a prominent tribe in central India known for their rich cultural heritage and resilience.
- She is **chiefly remembered for defending her kingdom against the Mughal Empire.**
- Direct interaction between Rani Durgavati's realm and the Mughal Empire was when Abdul Majid Khan, a Mughal subedar, invaded Rani Durgavati's realm with Akbar's approval.
- In the battle, **she defended her realm from the Mughal army, and set up camp in Narrai valley. She refused to leave the battlefield and killed herself with a dagger.**

DEBRIGARH WILDLIFE SANCTUARY

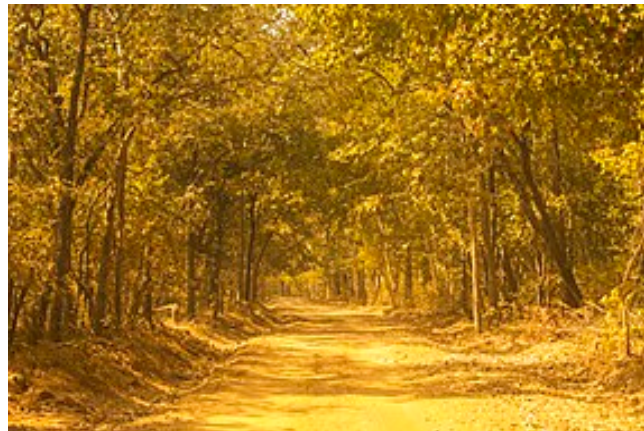
Why in News?

Debrigarh, a wildlife sanctuary in Odisha's Bargarh district, has achieved a significant milestone by becoming completely free of any human settlement.

The **Debrigarh Wildlife Sanctuary in Odisha has recorded a higher prey density and the sighting of a tiger** during a recent survey.

About Debrigarh Wildlife Sanctuary:

- The Debrigarh wildlife sanctuary is **located in the Bargarh district in the Indian state of Odisha**, covering a total area of 346.91 km².
- It is **situated near the city of Sambalpur's Hirakud Dam.**
- The Debrigarh Wildlife Sanctuary is **an important location for the conservation of various local wildlife and their habitat.**
- It is **home to a wide variety of flora and fauna.**
- The sanctuary, established in 8 February 1985, is **located near Hirakud Dam on the Mahanadi River** which is in western Odisha.



- It is an important site for in-situ conservation of wildlife which is spread over an area of 346 sq km.
- **It lies in the Biographic zone of Deccan Plateau/Gangetic Plain.**
- It is connected with the Gomardha (Sarangarh-Gomardha) Wildlife Sanctuary, Chhattisgarh in its west.
- It comprises of Lohara & Debrigarh Reserved Forests of famous Barapahad hills of Bargarh District.

FLASH FLOODS IN HIMACHAL PRADESH

Why in News?

India is experiencing a series of extreme rainfall events that have caused widespread destruction, landslides, flash floods and deaths in several parts of the country.

The **Chandigarh-Manali highway was blocked following flash floods** and landslides in parts of Haryana and Himachal Pradesh.

Flash floods were witnessed in Himachal Pradesh due to heavy downpour.

About Flash Floods:

- A flash flood is a rapid flooding of low-lying areas: washes, rivers, dry lakes and depressions.
- It may be caused by heavy rain associated with a severe thunderstorm, hurricane, or tropical storm, or by meltwater from ice or snow flowing over ice sheets or snowfields.
- **Flash floods are distinguished from regular floods by having a timescale of fewer than six hours between rainfall and the onset of flooding.**
- According to the US's meteorological agency, the **National Weather Service, flash floods are caused when rainfall creates flooding in less than 6 hours.**
- They are characterized by a swift rise in water levels in rivers, streams, or urban areas, often with little to no warning.



- **Factors responsible for flash floods in India:**
 - **Cloudbursts or thunderstorms and overflowing glacial lakes** (in Himalayan states formed due to the melting of glaciers).
 - **Climate change/global warming**
 - **Depression and cyclonic storms in the coastal areas** of Odisha, West Bengal, and Andhra Pradesh.
 - **Nearly 75% of the total rainfall is concentrated over just four months** (June to September) → rivers witness a heavy discharge during these months.
 - Apart from heavy rain, **flash floods can also be caused by dam or levee failures, ice or debris jams, or sudden release of water from natural reservoirs such as glacial lakes.**
 - Factors such as the **intensity and duration of rainfall, the steepness of terrain, the nature of the soil, and the presence of man-made structures that impede water flow** are also responsible for flash floods.

● **Early warning systems**, including weather monitoring, river gauges, and emergency alerts, play a crucial role in mitigating the impact of flash floods.

● It is essential for individuals and communities in flood-prone areas to be aware of the risks, have emergency plans in place, and follow the guidance provided by local authorities during such events.

KHARCHI PUJA

Why in News?

Along with the blessings of Chaturdash Devata PM expressed his desire for peace and prosperity on this occasion.

About Kharchi Puja:

- Kharchi Puja is a **Hindu festival from Tripura, India.**
- Performed in Agartala in July or August, the festival involves the **worship of the fourteen gods**



forming the dynasty deity of the Tripuri people.

- **Kharchi Puja is one of the most popular festivals in Tripura.**
- It's a **week-long royal Puja which falls in the month of July on the eighth day of the new moon** and attracts thousands of people.
- This festival is celebrated at Agartala (Puran Agartala) in the temple premises of Fourteen gods.
- ***The word "Kharchi" is derived from the word "Khya" which means "Earth". Kharchi Puja is basically done to worship the earth.***
- On the day of the Puja, the fourteen gods are carried to river "Saidra" by the members of "Chantai". The gods are bathed in the holy water and are brought back to the temple.
- **Animal sacrifice is also an important part of this festival** and includes sacrificing of Goats and Pigeons.
- Every day large numbers of people attend the festival and **both Tripuri and Non-Tripuri participants.**
- Various cultural programmes are performed each evening and a large fair is organised to mark the occasion.

7 PRODUCTS FROM UTTAR PRADESH GETS GI TAG

Why in News?

Recently, the Geographical Indications Registry in Chennai has given **tags to seven different products from Uttar Pradesh.**

About:

- **Geographical Indication Registry** (Chennai, Tamil Nadu-TN) under the Department of Industry Promotion and Internal Trade (DIPIT), Ministry of Commerce and Industry (MoCI), **has recognised 7 Handicrafts products from Uttar Pradesh with Geographical Indication (GI) Tag.**
- The products that been given the Geographical Indication (GI) tags are:
 1. **Amroha Dholak**: Musical instrument made of natural wood (mango, jackfruit, and teakwood).

2. **Mahoba Gaura Patthar Hastashlip**: Craft made of unique and soft stone, scientifically known as 'Pyro Flight Stone'.
3. **Mainpuri Tarkashi**: Popular art form of brass wire inlay work on wood, used for making khadaous.
4. **Sambhal Horn Craft**: Handmade craft made from raw material procured from dead animals.
5. **Baghpat Home Furnishings**: Baghpat and Meerut have gained renown for their exceptional handloom home furnishing products, and they have been actively involved in the production of fabrics using cotton yarn for generations. The handloom weaving process exclusively utilizes cotton yarn.
6. **Barabanki Handloom Product**: Barabanki and its neighbouring areas are home to approximately 50,000 weavers and 20,000 looms.
7. **Kalpi Handmade Paper**: Munnalal 'Khaddari,' a Gandhian, introduced the craft formally in the 1940s. However, locals believe that Kalpi's association with paper-making extends even further back in history. Today, the handmade paper-making cluster in Kalpi is a significant hub, involving over 5,000 craftsmen and approximately 200 units.





About Geographical Indication (GI) Tag:

- A geographical indication (GI) is a name or sign used on products which corresponds to a specific geographical location or origin (e.g., a town, region, or country).
- The use of a geographical indication, as an indication of the product's source, is intended as a certification that the product possesses certain qualities, is made according to traditional methods, or enjoys a good reputation due to its geographical origin.
- The registration of a geographical indication is valid for a period of 10 years.
- It can be renewed from time to time for a further period of 10 years each.
- **Nodal Agency: Department for Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry.**
- A GI tag enables the producers of such products to prevent unauthorized use of the indication by third parties who do not conform to the standards or criteria established for that product.
- Geographical Indications are covered as a **component of intellectual property rights (IPRs) under the Paris Convention** for the Protection of Industrial Property. GI is also governed by the **World Trade Organisation's (WTO's) Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). (1994)**



- In India, the **Geographical Indications of Goods (Registration and Protection) Act 1999** came into force in **2003** to comply with the obligations under TRIPS. The Act provides for the registration and protection of GIs in India.
- This **tag is issued by the Geographical Indication Registry** under the Department of Industry Promotion and Internal Trade, **Ministry of Commerce and Industry**.
- The **first product to get a GI tag in India was Darjeeling Tea** in 2004.

GLOBAL COMPETITIVENESS INDEX

Why in News?

India has been ranked 40th on the latest world competitiveness ranking **released by the International Institute for Management Development (IMD)**.

About:

- According to the Index, **Denmark, Ireland and Switzerland took the top three places.**
- India rose three spots to rank 40th, breaking its previous streak of ranking 43rd for three consecutive years.
- The report attributed India's improvement to its government efficiency, which improved in terms of public finance, institutional framework and business legislation.
- The report highlighted that India's strengths included exchange rate stability, compensation levels and pollution control, while its weaknesses included productivity, quality of life and digitalization.
- **India improved in government efficiency but fared slightly poorer than other countries in business efficiency, infrastructure, and economic performance.**

About World Competitiveness Report:

- The World Competitiveness Yearbook is an **annual report published by the Swiss-based International Institute for Management Development (IMD)** on the competitiveness of nations and **has been published since 1989**.

- It analyses and ranks countries according to how they manage their competencies to achieve long-term value creation.
- It is based on 336 competitiveness criteria and four factors, namely Economic performance, Government efficiency, Business efficiency, and Infrastructure.

UNODC WORLD DRUG REPORT 2023

Why in News?

The **UNODC World Drug Report 2023** (a yearly report) highlights the expanding illicit drug markets and the challenges they pose to health services and law enforcement.

About:

- Over 296 million people worldwide used drugs in 2021, a **23% increase over the past decade.**
- The **increasing dominance of synthetic drugs**, such as methamphetamine, and fentanyl which have transformed illicit drug markets **due to their low cost and ease of production.**
- **Drug use disorder cases have surged by 45%** in the last ten years
- Accelerated environmental devastation and crime caused by drug trafficking in the Amazon Basin.
- **Only one in five individuals with drug use disorders received treatment in 2021**, with significant regional disparities in access to treatment
- Illicit drug economies exacerbate conflicts, human rights abuses, and environmental devastation.
- Illicit drug trade finances non-state armed and insurgency groups in the Sahel region. Prioritizing public health in regulating med
- The report highlights the increasing number of people who inject drugs, surpassing previous estimates, and emphasizes the pressing need for action amidst intersecting global crises.
- The **report calls for increased monitoring of public health impacts as regulatory changes and clinical trials involving psychedelics progress.**
- Prioritizing public health, prevention, and access to treatment services worldwide to ensure that drug challenges do not leave more people behind.

- **Steps taken by India** to address the issue of drug trafficking:
 - National Policy on Narcotic Drugs and Psychotropic Substances
 - Narcotics Control Bureau
 - International cooperation
 - Seizure of drugs
 - Awareness campaigns
 - Use of technology
 - Strengthening border security
 - Use of financial intelligence

About UNODC:

- The **United Nations Office on Drugs and Crime** is a United Nations office that was established in 1997 as the Office for Drug Control and Crime Prevention.



UNODC

United Nations Office on Drugs and Crime

- It was created by combining the United Nations International Drug Control Program (UNDCP) and the Crime Prevention and Criminal Justice Division in the United Nations Office at Vienna, adopting the current name in 2002.
- The agency's focus is the trafficking and abuse of illicit drugs, crime prevention and criminal justice, international terrorism, and political corruption.
- It is a member of the **United Nations Development Group**.

PEN PRINTER PRIZE

Why in News?

British children's writer and performance poet **Michael Rosen** has been awarded the prestigious PEN Pinter Prize 2023.

The prize is given to a writer from the UK, Ireland, and the Commonwealth who is committed to fearless exposition of truth about contemporary life.

About PEN Printer Prize:

- The PEN Pinter Prize and the Pinter International Writer of Courage Award both comprise an **annual literary award launched in 2009 by English PEN in honour of the late Nobel Literature Prize-winning playwright Harold Pinter.**
- The award is given to "a British writer or a writer resident in Britain of outstanding literary merit who, in the words of Pinter's Nobel speech ['Art, Truth and Politics'], casts an 'unflinching, unswerving' gaze upon the world and shows 'a fierce, intellectual determination ... to define the real truth of our lives and our societies'.
- Named in honour and memory of English writer Harold Pinter, the PEN Pinter Prize is a prestigious award which is **given to a writer who reflects a "fierce intellectual determination (to) define the real truth of our lives and our societies,"**.
- The prize is shared with an international writer of courage selected by English PEN's Writers at Risk Committee in association with the winner.
- This half of the prize is awarded to someone who has been persecuted for speaking out about their beliefs.
- **Previous winners of the PEN Pinter Prize include Hanif Kureishi (2010), Salman Rushdie (2014), and Lemn Sissay (2019).**

About Michael Rosen:

- Michael Wayne Rosen (born 7 May 1946) is a **British children's author, poet, presenter, political columnist, broadcaster and activist** who has written 140 books.
- He **served as Children's Laureate from 2007 to 2009.**
- He **won the 2023 PEN Pinter Prize**, awarded by English PEN, for his "fearless" body of work.



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