SEPTEMBER CURRENT AFFAIRS

KAKAPO PARROTS

Why in News?

The genetic mapping of the kākāpō population, **a critically endangered flightless parrot native to New Zealand,** has provided crucial insights for conservation biologists striving to save this unique species.

About Kakapo Parrots:

- The **kākāpō, sometimes known as the owl parrot**, is a **species of large, nocturnal, ground-dwelling parrots** of the super-family Strigopoidea.
- It is **endemic to New Zealand.**
- Kākāpō **can be up to 64 cm (25 in) long.**
- They **have a combination of unique traits among parrots**: finely blotched yellow-green plumage, a distinct facial disc, owl-style forward-facing eyes with surrounding discs of specially-textured feathers, a large grey beak, short legs, large blue feet, relatively short wings and a short tail.
- It is the **world's only flightless parrot, the world's heaviest parrot.**
- It is the **only parrot to have a polygynous lek breeding system.**
- It is **also possibly one of the world's longest-living birds, with a reported lifespan of up to 100 years.**
- **IUCN: Critically Endangered**
- They **only breed every few years**, triggered by the availability of certain forest foods such as the fruits of the **native rimu tree.**

ADITYA L-1 MISSION

Why in News?

The **Indian Space Research Organisation (ISRO) launched the Aditya-L1 solar mission on September 2, 2023**.

The launch was **conducted using the PSLV-C57 rocket.** The PSLV's fourth stage was fired twice, a first in ISRO's history, to precisely insert the spacecraft into its elliptical orbit.
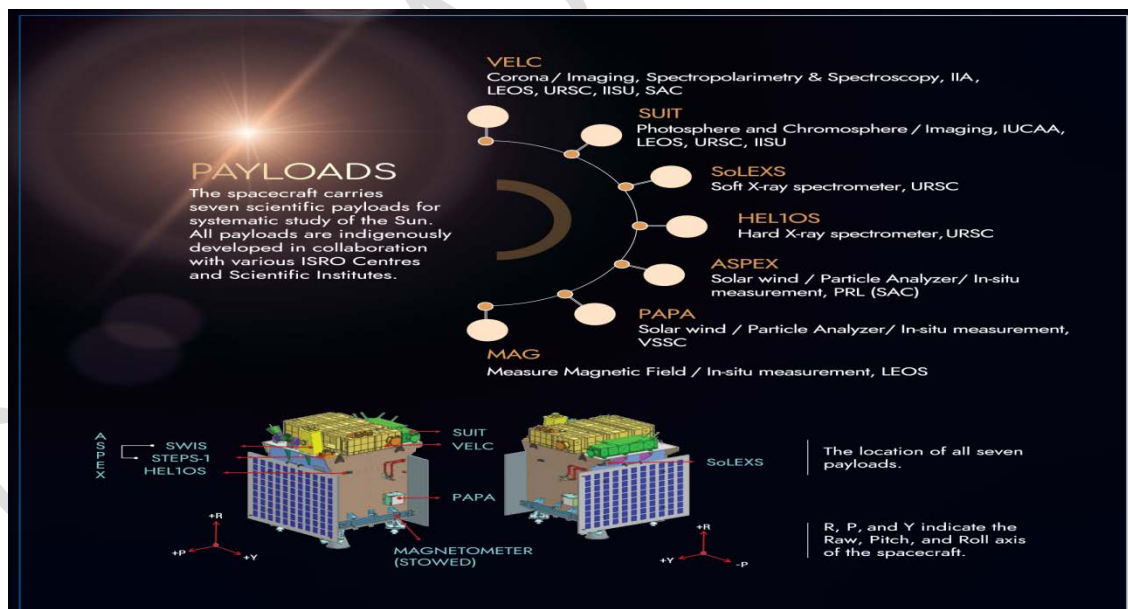
About Aditya L-1 mission:

- Aditya-L1 is the **first space based observatory class Indian solar mission** to study the Sun from a substantial distance of 1.5 million kilometers. It will take approximately **125 days to reach the L1 point.**
- This is a **shorter voyage than Mangalyaan**, which took 298 days to reach the Martian orbit in 2014.
- Aditya-L1 is **also ISRO's second astronomy observatory-class mission** after **AstroSat (2015).**
- The **spacecraft is planned to be placed in a halo orbit around the Lagrangian point 1 (L1) of the Sun-Earth system.**
- The objective of the mission is to **study solar upper atmospheric (chromosphere and corona) dynamics** and understand the physics of the solar corona and its heating mechanism.
- The mission aims to provide valuable insights into the solar corona, photosphere, chromosphere, and solar wind.
- The **primary objective of Aditya-L1 is to gain a deeper understanding of the Sun's behavior,** including its radiation, heat, particle flow, and magnetic fields, and how they impact Earth.

PAYLOADS:

- ➢ **Aditya-L1 has seven payloads in total,** with four for remote sensing of the Sun and three for in-situ observation.
- ➢ **The primary payload is the Visible Emission Line Coronagraph (VELC).**
- ➢ Solar Ultraviolet Imaging Telescope **(SUIT**), Solar Low Energy X-ray Spectrometer **(SoLEXS)**, High Energy L1 Orbiting X-ray Spectrometer **(HEL1OS)**, Aditya Solar wind Particle Experiment **(ASPEX)**, Plasma Analyser Package for Aditya **(PAPA),** Advanced Tri-axial High Resolution Digital **Magnetometers**
- ➢ These **instruments can observe the Sun in multiple wavelengths, including X-ray, UV, and visible light.**
- ➢ Six of the mission's payloads — VELC, SUIT, SoLEXS, HEL1OS, PAPA, and MAG — will remain in the 'off' mode until around January 6, 2024, when the spacecraft is expected to be inserted into a 'halo' orbit near L1.
- ➢ The **Aditya Solar wind Particle Experiment (ASPEX),** built by the Physical Research Laboratory, **will turn on while in transit.**
- ➢ During the cruise phase, ASPEX will turn on and start performing in situ measurements of solar particles and ions.

SIGNIFICANCE OF EXPLORING SUN:

- The **Sun is the center of our solar system,** and **its characteristics greatly influence the behavior of all other celestial bodies.** Studying the Sun enhances our understanding of the dynamics of our solar neighborhood.
- **Solar activities**, such as solar flares and coronal mass ejections, **can impact Earth's space environment.**
- Understanding these phenomena is **crucial for predicting and mitigating potential disruptions to communication systems, navigation, and power grids**.
- Solar radiation and solar wind affect the functioning of satellites and spacecraft. Understanding these solar interactions **allows for better spacecraft design and operation.**
- Exploring the Sun's complex behavior, including its magnetic fields, heating mechanisms, and plasma dynamics, **contributes to advances in fundamental physics and astrophysics.**
- The **Sun is a natural fusion reactor.** Insights gained from studying its core and nuclear reactions **can inform our pursuit of clean and sustainable fusion energy on Earth.**

About Lagrange Points:

- The Lagrange points are **points of equilibrium for small-mass objects under the influence of two massive orbiting bodies.**
- At Lagrange points, the gravitational pull of two large masses precisely equals the centripetal force required for a small object to move with them.
- This means that a small object, such as a spacecraft, can stay at these points without using much fuel to maintain its orbit.
- These points in space can be used by spacecraft **to reduce fuel consumption needed to remain in position.**
- **There are five Lagrange Points,** each with distinct characteristics. These points enable a small mass to orbit in a stable pattern amid two larger masses.

Lagrange Points in the Sun-Earth System:

L1: L1 is considered the **most significant of the Lagrange points for solar observations**. A satellite placed in the halo orbit around the L1 has the major advantage of continuously viewing the Sun without any occultation/ eclipses.

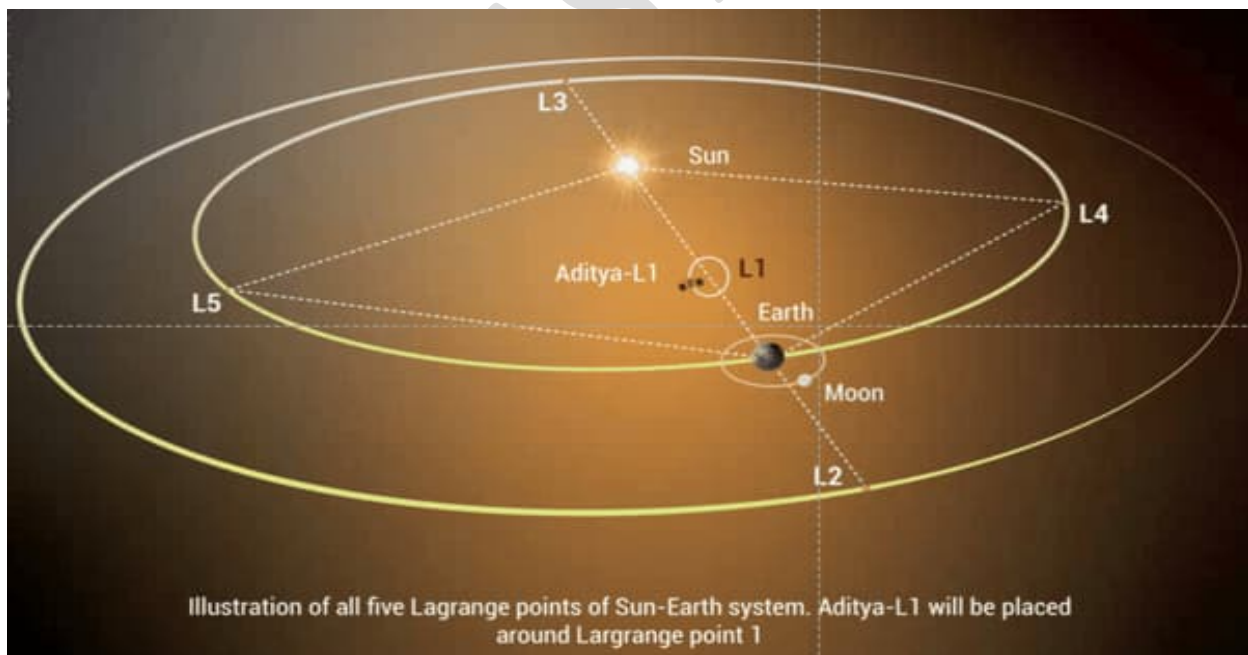It is currently home to the Solar and Heliospheric Observatory Satellite (SOHO).

L2: **Positioned directly 'behind' Earth** as viewed from the Sun, L2 is excellent for observing the larger Universe without Earth's shadow interference.

The **James Webb Space Telescope orbits the Sun near L2.**

L3: Positioned behind the Sun, opposite Earth, and just beyond Earth's orbit, it offers potential observations of the far side of the Sun.

L4 and L5:Objects at L4 and L5 maintain stable positions, forming an equilateral triangle with the two larger bodies.

They are often used for space observatories, such as those studying asteroids.

Illustration of all five Lagrange points of Sun-Earth system. Aditya-L1 will be placed around Largrange point 1

SOLAR MISSIONS BY DIFFERENT COUNTRIES:

	COUNTRY	MISSION
1	United States of America (USA)	• Parker Solar Probe (August 2018) • Solar Orbiter (February 2020)
2	Japan	• Hinotori (ASTRO-A, 1981) • Yohkoh (SOLAR-A, 1991) • Hinode (SOLAR-B, 2006)
3	Europe	• Ulysses (October 1990) • Proba-2 (October 2001) • Proba-3 (2024) • Smile (2025)
4	China	Advanced Space-based Solar Observatory (ASO-S, October 2022)

TIBETAN DEMOCRACY DAY

Why in News?

Tibetan Democracy day, celebrated on September 2, marks the inception of the Tibetan democratic system in exile.

About:

- Tibetan Democracy day, **widely known within the community as Mangsto Duchen** ('Mangsto': democracy; 'Duchen': occasion).
- It **marks the inception of the Tibetan democratic system in exile.**
- **At the heart of the Tibetan**

democratic system, which governs over 1 lakh refugees across the world, **stands the Central Tibetan Administration (CTA),** the Tibetan government-in-exile in Dharamshala.

- Many decades later, however, the **CTA is not officially recognised by any country.**

TIBETAN DEMOCRATIC SYSTEM:

➢ **On September 2, 1960, a year after thousands of Tibetans had been forced to flee their home**, the first elected representatives of the Tibetan Parliament-in-exile took their oaths in Bodh Gaya to inaugurate the Tibetan democratic system.

➢ **In 1963, the Dalai Lama enacted the Tibetan constitution based on the ideals of democracy and universal values,** following which the first women representatives were elected.

➢ **In 1975, Kashag, the apex body of CTA, declared September 2 as the founding day of Tibetan democracy.**

➢ **In 1991, the Charter of the Tibetans in exile was adopted,** and in the following year, the Tibetan Supreme Justice Commission was established, introducing the exile community to the three pillars of democracy.

- **The CTA, which is based in Dharamshala in Himachal Pradesh**, has a branch office in every Tibetan settlement spread across India and abroad.

- Under its incumbent President, Penpa Tsering, **CTA runs seven departments: Religion and Culture, Home, Finance, Education, Security, Information and International Relations, and Health.**

- The **President is directly elected every five years.**

- Tibetans in exile recognize the CTA as their legitimate government.

India maintains a policy of not recognizing a separate government of Tibet in India but regards the Dalai Lama as a revered religious leader.

India follows the "One China" policy, it does not feel the need to reiterate it frequently.

NUAKHAI FESTIVAL

Why in News?

President **Droupadi Murmu greeted citizens on the festival of Nuakhai** and wished for the prosperity of the country and its people.

About Nuakhai Festival:

- **Nuakhai is an agricultural festival** mainly **observed by people of Western Odisha in India.**
- Nuakhai is **observed to welcome the new rice of the season.**
- According to the calendar **it is observed on panchamitithi (the fifth day)** of the lunar fortnight of the month of Bhadrapada or Bhadraba (August–September), **the day after the Ganesh Chaturthi festival.**
- This is the most important social festival of Western Odisha and adjoining areas of Simdega in Jharkhand, where the culture of Western Odisha is much predominant.
- Nuakhai is **also called Nuakhai Parab or Nuakhai Bhetghat**. It is also known as NavakhaiParv in Chhattisgarh.
- The word **nua means new** and **khai means food**, so the name means the farmers are in possession of the newly harvested rice.
- It has its best celebration in the Kalahandi, Sambalpur, Balangir, Bargarh, Sundergarh, Jharsuguda, Subarnapur, Boudh and Nuapada districts of Odisha.
- Some researchers found the **fundamental idea of the celebration can be traced back at least to Vedic times** when the **rishis (sages) had talked of panchayajna,** the five important activities in the annual calendar of an agrarian society.
- These five activities have been specified as
    1. **Sitayajna**(the tilling of the land),
    2. **Pravapanayajna** (the sowing of seeds),

3. **Pralambanayajna** (the initial cutting of crops),
4. **Khalayajna** (the harvesting of grains) and
5. **Prayayanayajna** (the preservation of the produce).

- Nuakhai may be seen as having evolved out of the third activity, namely **pralambanayajna, which involves cutting the first crop and reverently offering it to the mother goddess.**

- Nuakhaicelebration starts with the preparation for the festival almost two weeks before the festival.

- **Nuakhai is understood to have nine colours** and as a consequence nine sets of rituals are followed as a prelude to the actual day of celebration.

- In a sequential manner these **9 colors include**:

  Colors -Events

1. **Beheren** - Announcement of a meeting to set the date
2. **Lagnadekha** - Setting the exact date for partaking of new rice
3. **Dakahaka**- Invitation
4. **Saphasutura** and **lipa-puchha** - Cleanliness
5. **Kina bika** - Purchasing
6. **Nuadhankhuja** - Looking for the new crop
7. **Bali paka**- Final resolve for Nuakhai by taking Prasad (the offering) to the deity
8. **Nuakhai** - Eating the new crop as Prasad after offering it to the deity, followed by dancing and singing
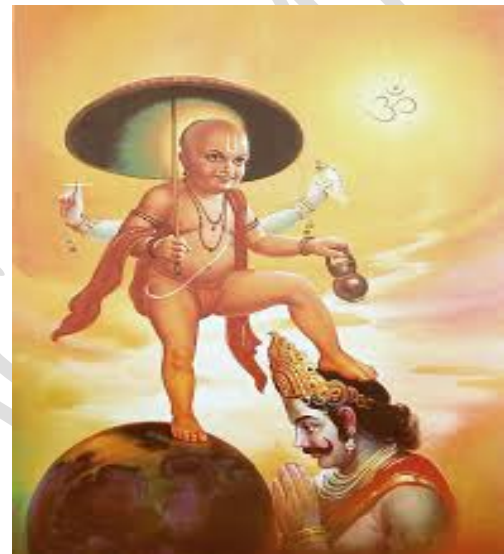9. **Juharbhet** - Respect to elders & gift transfers

ONAM FESTIVAL

Why in News?

Onam festival was **celebrated in Kerala,** bringing happiness, unity, and a lot of cultural beauty. T**he festival spans 10 days**, commencing on Atham (the first day of Onam) and culminating on Thiruvonam (the final day)

Various classical dances of Kerala were performed during Onam celebrations held recently.

About Onam Festival:

- Onam is **an annual Indian harvest and cultural festival** related to Hinduism **celebrated mostly by the people of Kerala.**

- A major annual event for Keralites, it is the **official festival of the state and includes a spectrum of cultural events.**

- The **date of Onam celebration is based on the Panchangam**, and **falls on the 22nd nakshatraThiruvonam in the month Chingam of Malayalam calendar**, which in Gregorian calendar falls between August–September.

- It **marks the beginning of the Malayalam year, called KollaVarsham,** and **commemorates the return of the mythical King Mahabali**with great enthusiasm and cultural fervor.

- The celebrations mark the Malayalam New Year, are s**pread over ten days**, and conclude with Thiruvonam.

- The ten days are sequentially known as **Atham, Chithira, Chodhi, Vishakam, Anizham, Thriketa, Moolam, Pooradam, Uthradam and Thiruvonam.**

- It is also **one of the three major festivals of Kerala,** celebrated during the month of Chingam, the first month in the Malayalam calendar, Kollavarsham.

- The **other two major festivals of the state are Vishu and Thiruvathira.**

- Onam involves crafting Pookkalam, intricate

flower rangolis.

- Alongside, a variety of rituals enrich the festivities, including Vallam Kali (boat races), Pulikali (tiger dances), Kummattikali (mask dances), and Onathallu (martial arts), among other captivating traditions.
  - o Pookkalam: Symbolic Floral Designs
  - o Onakkodi: New Clothes and Gifting
  - o OnamSadya: The Grand Feast
  - o Vallamkali: The Boat Race
  - o Elephant Processions
  - o ThrikkakaraAppan and Worship
  - o Cultural Activities
  - o Pulikali Dance: The Tiger Dance
- Other dance forms of Kerala:Kathakali ,Mohiniyattam,Thirvathirakali, Kolkali, Ottamthullal, Koodiyattam, ChakyarKoothu , Theyyam etc.
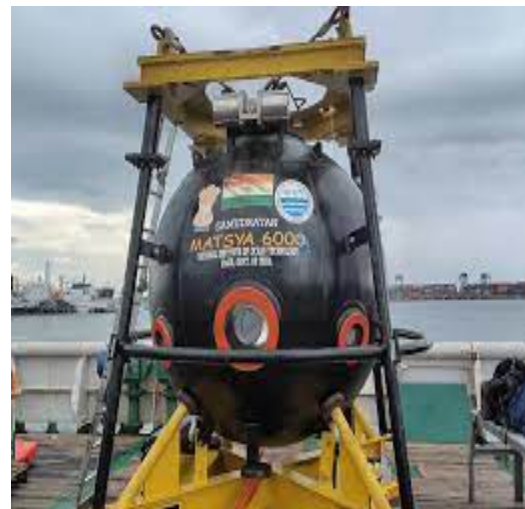
PROJECT SAMUDRAYAAN

Why in News?

Union Minister of Earth Sciences recently said that India's ambitious Samudrayaan project is set to send three personnel to a depth of 6000 meters in a submersible vehicle.

About Samudrayaan Project:

- Samudrayaan Project is **India's first manned mission to explore the deep ocean.**
- It is **designed to study the deep ocean resources** and **conduct biodiversity assessments as well.**
- The **mission will not disturb the ecosystem** as the submersible is used solely for exploration purposes.

- **Nodal Ministry : The Ministry of Earth Sciences (MoES).**
- Indian scientists are gearing up for an ambitious project called Samudrayaan, which **involves sending three people 6,000 meters underwater in a domestically developed submersible named Matsya 6000.**
- This <u>mission aims to explore the ocean depths of precious metals and minerals such as cobalt, nickel, and manganese.</u>
- **MATSYA 6000 is a manned submersible vehicle developed by the National Institute of Ocean Technology (NIOT), Chennai.**
- It was **developed under the Samudrayaan mission** to facilitate humans in the deep ocean in exploring mineral resources.
- It is <u>designed with the capability of operating in the deep sea for 12 hours while in case of emergency, it can also operate up to 96 hours with all the necessary measures for human safety.</u>
- It's worth noting that **only a few countries, including the US, Russia, Japan, France, and China, have developed manned submersibles.**
- In addition to searching for valuable minerals like nickel, cobalt, and manganese, **Matsya 6000 will investigate the chemosynthetic biodiversity in hydrothermal vents and low-temperature methane seeps in the ocean.**

WOMEN RESERVATION BILL

Why in News?

The **Constitution (One Hundred and Twenty-Eighth Amendment) Bill, 2023** has been passed from LokSabha and RajyaSabha.

About:

- Women's Reservation Bill 2023, officially **Nari Shakti VandanAdhiniyam,** also known as The Constitution (One Hundred and Twenty-Eighth Amendment) Bill 2023, is a bill introduced in the Parliament of India.

- This **Women's Reservation Bill was introduced in LokSabha** on 19 September 2023 **during the special session of Parliament.**
- This legislation <u>seeks to allocate 33 percent of the seats in the directly elected Lok Sabha and state legislative assemblies for women.</u>
- The bill is the possible culmination of a legislative debate that had been ongoing for 27 years, including the lapsed Women's Reservation Bill (2010), due to the lack of consensus among political parties.
- It mandates **33 percent reservation for women in the LokSabha, the state Legislative Assemblies, and the Delhi Assembly.**
- It <u>also reserves one-third of seats for women within the existing SC and ST reservations.</u>
- **Seats will be reserved on a rotational basis,** and <u>reservations will cease after 15 years.</u>
- The Bill includes a **sunset clause,** stipulating that the reservation will be applicable for 15 years from the Act's commencement.

HISTORY OF WOMEN'S RESERVATION BILL:

- The Women's Reservation Bill **was first introduced in the Lok Sabha in 1996** as the **81st Amendment Bill.** The bill provided 33% reservation for women in the LokSabha and the legislative assemblies.
- The **bill was referred to a Joint Parliamentary Committee but the bill lapsed after the LokSabha was dissolved.**
- In **1998,** the 12th LokSabha saw the reintroduction of the bill.
- This time also, the **bill lapsed after it failed to get any support.**
- The bill was introduced again in **1999, 2002 and 2003** but met with the same fate as the previous times.
- In **2008, the bill was tabled in the RajyaSabha and was passed in 2010.**
- However, i**t was never introduced in the lower house and it lapsed with the dissolution of the House.**
- After that, there has not been any movement on this bill.

ARTICLES

o The Bill provided for **inserting Article 330A to the constitution,** which borrows from the provisions of Article 330, which provides for reservation of seats to SCs/STs in the LokSabha.

o The **Bill introduces Article 332A,** which mandates the reservation of seats for women in every state Legislative Assembly.

o **Reservation for Women in NCT of Delhi (New clause in 239AA)**

o **Commencement of Reservation (New article - 334A)**

✚ DELIMITATION

What is Delimitation?

Delimitation is the **process of redrawing boundaries of LokSabha and State Assembly constituencies based on a recent census**to ensure each seat has an almost equal number of voters.

Why delimitation is required?

➤ To provide **equal representation to equal segments of a population.**

➤ **Fair division of geographical areas** so that one political party doesn't have an advantage over others in an election.

➤ To follow the **principle of "One Vote One Value".**

How delimitation is carried out?

• Under Article 82, the **Parliament enacts a Delimitation Act after every Census.**

• Under Article 170, **States also get divided into territorial constituencies as per Delimitation Act after every Census.**

• Once the Act is in force, the **Union government sets up a Delimitation Commission.**

• The first delimitation exercise was carried out by the President (with the help of the Election Commission) in 1950-51.

• The Delimitation Commission Act was enacted in 1952.

• **Delimitation Commissions have been set up four times — 1952, 1963, 1973 and 2002** under the Acts of 1952, 1962, 1972 and 2002.

• There was **no delimitation after the 1981 and 1991 Censuses.**

What is Delimitation Commission?

- It is a **high-level body set up by an act of the Parliament.** It demarcates the boundaries of the Parliamentary Constituencies as per the provisions of the Delimitation Act.

  Appointment:

  It is **appointed by the President of India** and works in collaboration with Election Commission of India.

- **Composition:**
  - Retired Supreme Court Judge
  - Chief Election Commissioner
  - Respective State Election Commissioners

- In case of **difference of opinion among members of the Commission, the opinion of the majority prevails.**

- The Delimitation Commission in India is a high power body whose **orders have the force of law and cannot be called in question before any court.**

- Functions:

  1) To determine the number and boundaries of constituencies to make population of all constituencies nearly equal.

  2) To identify seats reserved for Scheduled Castes and Scheduled Tribes, wherever their population is relatively large.

🔸 **SPECIAL SESSION OF PARLIAMENT:**

- The government has announced a **"special session" of Parliament from September 18 to 22,** and this has raised questions about the legislative agenda for the session.

- The **term "special session" is not defined in the Constitution.**

- The term sometimes refers to sessions the government has convened for specific occasions, like commemorating parliamentary or national milestones.

- **Presiding officers chair these sessions**.

- Its convening is carried out **as per the provisions of Article 85(1) of the Constitution.**

- **Article 85(1)** of the Indian Constitution stipulates the procedure for summoning Parliament.

- This constitutional provision **grants the President the authority to call Parliament into session, including special sessions, as deemed necessary.**
- The procedural devices like question hour would not be available to MPs during the session.
- Types of Special Sessions:
     1) Special Sessions with Debates
     2) Special Session without Debates (Midnight Sessions)

1) **Special Sessions with Debates:**

- 1962: The agenda included a discussion on the India-China war situation.
- 2015: A special session commemorated Dr. B.R. Ambedkar's 125th birth anniversary.

2) **Midnight Special Sessions (Without Debates):**

- 1947: It was held on the eve of India's independence.
- 1972: A session was held to celebrate 25 years of India's independence.
- 1992: A special session marked the 50th anniversary of the Quit India Movement.
- 1997: A session was held to celebrate 50 years of India's independence.
- 2017: A session was convened to mark the rollout of the Goods and Services Tax (GST).
- **Article 352 of the Constitution mentions a "special sitting of the House"** in the context of a Proclamation of Emergency. If Parliament is not in session, one-tenth of LokSabha MPs can request a special meeting to disapprove the Emergency.

ONE NATION ONE ELECTION

Why in News?

Recently the **Union government set up a committee** under the leadership of former President of India Ram Nath Kovind **to look into the feasibility of simultaneous polls** to State Assemblies and the Lok Sabha.

About:

- **Simultaneous elections refer to holding elections to Lok Sabha, State Legislative Assemblies, Panchayats and Urban local bodies simultaneously, once in five years**
- The **central idea** behind One nation, One election **is to synchronize the timing of Lok Sabha and State Assembly elections across all States** to reduce the frequency of polls throughout the country.

- However, political parties are divided on the issue of holding simultaneous elections.
- This **concept was the practice till 1967**, but it was disrupted due to various reasons such as defections, dismissals, and dissolutions of government.
- **This concept was the practice till 1967,** but it was disrupted due to various reasons such as defections, dismissals, and dissolutions of government.

Benefits of Having One Nation,One Election:

- o It **enables the government to concentrate on governance** once the elections are over.
- o **Money and administrative expense will be drastically cut,** political parties spend a lot on elections campaigning.
- o The r**uling parties will be able to focus on legislation and governance rather than having to be in campaign mode forever.**
- o Moreover, the **same electoral rolls can be used for all the elections.** This will save a tremendous amount of time and money spent in updating electoral rolls.
- o It **will reduced the deployment of Security Forces.**
- o Holding elections at specific periods **could potentially reduce horse-trading by elected representatives,** which remains a concern even with anti-defection law in place.

Criticism of One Nation,One Election:

o Simultaneous elections **threaten the federal character of our democracy.**

o **Large national parties would reap the economies of scale of one large election every five years,** to the disadvantage of regional parties.

o It **will pose logistical challenges i**n terms of availability and security of electronic voting machines, personnel and other resources.

o The **Law Commission headed by Justice B. S. Chauhan reported the simultaneous elections are not feasible within the existing framework of the Constitution.**

o It raises **feasibility issues in cases of mid-tenure collapse of state or central governments or in case of President's rule.**

o To conduct simultaneous elections in India, **many amendments to the constitution of India are to be made like Art 83, Art 172, RPS 1951 etc.**

Way Forward

➢ 'One India One Election' would be a good change if **it could be carried out with the proper execution of policies and rules,** taking care of the rising need for good administrative staff and security.

➢ **Building consensus among all political parties and states** on the need and feasibility of simultaneous elections.

➢ **Investing in the infrastructure and technology required** for conducting simultaneous elections

➢ **Creating awareness among the voters** about the benefits and challenges of simultaneous elections

➢ However, since the issue is concerned with the federal structure of the Constitution, it needs to be discussed and debated properly across the political spectrum to assuage the concerns of regional parties.

MULTIPURPOSE SEAWEED PARK

Why in News?

On the third day of the Sagar Parikrama Phase VIII, Minister of Fisheries, Animal Husbandry & Dairying, Shri Parshottam Rupala lays the Foundation Stone for the establishment of **Multi-Purpose Seaweed Park in Tamil Nadu.**

About Seaweed Park:

- **Ministry of Fisheries, Animal Husbandry & Dairying** laid the Foundation Stone for a Multi-Purpose Seaweed Park in Tamil Nadu.
- **Model - Hub-and-spoke model.**
- **Objective** : **Seaweed cultivation** for creation of employment opportunity for coastal fisher youth and fisherwomen, **development of value-added seaweed products** by encouraging private sector/ entrepreneurs and support them in **setting up seaweed processing units** in proposed seaweed park.
- The seaweed park **includes promotion of seaweed cultivation in 136 coastal fishing villages in 6 coastal districts of Tamil Nadu** and will involve and engage manpower of 8821 people.
- It will **also provide a single window support for the entrepreneurs, processors** to access information on schemes, licenses/approvals required, while also providing space to set up processing centres
- In addition to promoting seaweed cultivation, **the park will also focus on the conservation of marine ecosystems** and **will house an aquarium** highlighting various marine species that rely on seaweed for survival.

About Seaweeds:

- Seaweed, or macroalgae, **refers to thousands of species of macroscopic, multicellular, marine algae.**
- The term includes some types of Rhodophyta (red), Phaeophyta (brown) and Chlorophyta (green) macroalgae.

- "Seaweed" lacks a formal definition, but **seaweed generally lives in the ocean and is visible to the naked eye.**
- The **term refers to both flowering plants submerged in the ocean,** like eelgrass, **as well as larger marine algae.**
- Generally, **it is one of several groups of multicellular algae: red, green and brown**.
- They lack one common multicellular ancestor, forming a polyphyletic group.

- Seaweed species such as **kelps provide essential nursery habitat for fisheries and other marine species** and thus protect food sources.
- In addition, **bluegreen algae (Cyanobacteria) are occasionally considered in seaweed literature.**
- **It can vary in size and colour** and is **used in various industries, including food, cosmetics, and agriculture.**
- **Seaweed is rich in nutrients** and has diverse applications worldwide.
- Seaweed is a **source of vitamins, minerals, and fiber.**
- **Many seaweeds contain anti-inflammatory and anti-microbial agents.** Their **known medicinal effects** have been legion for thousands of years.
- **Certain seaweeds possess powerful cancer-fighting agents** that researchers hope will eventually prove effective in the treatment of malignant tumors and leukemia in people.
- Natural seaweed ecosystems are sometimes under threat from human activity.

PM-DAKSH YOJANA

Why in News?

A total of over 1 lakh beneficiaries have been trained under PM-DAKSH since the last three years of its implementation from 2020-21 to 2022-23

About PM-DAKSH YOJANA:

- The **Pradhan Mantri Dakshata Aur Kushalata Sampanna Hitgrahi (PM-DAKSH) Yojana,** a <u>Central Sector Scheme,</u> was **launched during 2020-21.**

- **Objective** : **To enhance competency level of the target groups to make them employable** <u>both in self-employment and wage-employment for their socio-economic development.</u>

- **Nodal Ministry: Ministry of Social Justice & Empowerment (MoSJ&E)**

- The t**arget group** under this scheme are **SCs, OBCs, EBCs, DNTs Safai Karamcharis including waste pickers etc.**

- **Age criterion** of scheme : **between 18-45 years.**

- **Income criteria** :
    - **No income limit** for <u>SCs, SafaiKaramcharis Including waste picker and DNT.</u>
    - The annual family income should be **below Rs.3 lakh** <u>for OBCs</u> and
    - <u>The EBCs (Economically Backward Classes)</u> annual **family income below Rs.1 lakh.**

- The scheme **offers various types of training programs with different durations and costs per candidate:**

- **Up-skilling/Reskilling** (35 to 60 hours/ 5 days to 35 days):-Rs.3000/- to Rs.8000/-
- **Short Term Training** (300 hours/3 months) :-Rs.22,000/-
- **Entrepreneurship Development Programme** (90 hours/15 days):Rs.7000/-
- **Long Term Training** (650 hours/7 months) :- Rs.45,000/-

ASEAN-INDIA SUMMIT

Prime Minister, Narendra Modi, attended the 20th ASEAN-India Summit and the 18th East Asia Summit (EAS) in Jakarta on 7 September 2023.

About this ASEAN-INDIA Summit:

- Prime Minister emphasized that **ASEAN (Association of Southeast Asian Nations) plays a central role in India's Act East Policy.**
- **Theme of 2023 :"ASEAN Matters: Epicentrum of Growth."**
- **Prime Minister presented a 12-point proposal for strengthening India – ASEAN cooperation** covering connectivity, digital transformation, trade and economic engagement, addressing contemporary challenges, people-to-people contacts and deepening strategic engagement, as follows:

1. **Establishing multi-modal connectivity and economic corridor** that links South-East Asia-India-West Asia-Europe
2. **Offered to share India's Digital Public Infrastructure Stack** with ASEAN partners
3. Announced **ASEAN-India fund for Digital Future** focusing on cooperation in digital transformation and financial connectivity
4. Announced **renewal of support to Economic and Research Institute of ASEAN and East Asia (ERIA)** to act as knowledge partner for enhancing our engagement.
5. **Called for collectively raising issues being faced by Global South** in multilateral fora
6. **Invited ASEAN countries to join Global Centre for Traditional Medicine** being established by WHO in India.
7. Called for **working together on Mission LiFE.**
8. Offered **to share India's experience in providing affordable and quality medicines to people** through Jan-AushadhiKendras
9. **Called for collective fight against terrorism, terror financing and cyber-disinformation**
10. **Invited ASEAN countries to join Coalition for Disaster Resilient Infrastructure**
11. Called for **cooperation in disaster management**
12. Called for **enhanced cooperation on maritime safety, security and domain awareness**

Prime Minister highlighted synergies of visions for Indo-Pacific between India and ASEAN, and underscored that ASEAN is the focal point of Quad's vision.

About ASEAN :

- ASEAN,an abbreviation for the **Association of Southeast Asian Nations.**
- It is a **political and economic union of 10 states in Southeast Asia.**
- Together, its member states represent a **population of over 600 million over a land area of 4.5 million km2** (1.7 million sq mi)
- ASEAN member states **include some of the fastest growing economies in the world.**
- The **primary objectives** as stated by the association are:
  - **To accelerate economic growth, social progress and cultural development in the region,**
  - To **promote regional peace and stability** through abiding respect for justice and the rule of law in the relationship among countries in the region and adherence to the principles of the United Nations Charter.
- **ASEAN engages with other supranational entities in the Asia-Pacific region** and beyond: it is a major partner of the UN, SCO, PA, GCC, MERCOSUR, CELAC, and ECO.
- **ASEAN, established on August 8, 1967,** initially consisted of five member states: **Indonesia, Malaysia, the Philippines, Singapore, and Thailand.**
- ASEAN's first summit meeting, held in Bali, Indonesia, in 1976.
- The organization's goal is to promote stability and economic growth across these nations.
- **In 2006, ASEAN was given observer status at the United Nations General Assembly.**
- The **ASEAN chair is a rotating position,** currently held by Indonesia; Laos is set to take over the chair in 2024
- **Member Countries: Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and Vietnam.**
- **India is part of the ASEAN Plus Six grouping**, which includes China, Japan, South Korea, New Zealand, and Australia.
- India and ASEAN signed a Free Trade Agreement in 2010 and have seen trade growth, except during the pandemic years of 2020 and 2021.

ASEAN Member Countries

ONE SUN, ONE WORLD, ONE GRID

Why in News?

A day-long conference on "Transnational Grid Interconnections for One Sun, One World, One Grid (OSOWOG)" was recently held in New Delhi.

About OSOWOG:

- A **one-day conference in New Delhi** ("TransnationalGrid Interconnections for One Sun, One World, One Grid"), **organized by the Power Grid Corporation of India Limited**, focused on cross-border energy connectivity and collaboration.

- The **idea for the OSOWOG initiative was put forth by the Prime Minister of India,** at the First Assembly of the International Solar Alliance (ISA) in October 2018.
- The initiative **aims at connecting energy supply across borders.**
- The vision behind the OSOWOG initiative is the mantra that **"the sun never sets".**

- The **OSOWOG initiative aims to connect different regional grids through a common grid that will be used to transfer renewable energy power and, thus, realize the potential of renewable energy sources, especially solar energy.**
- The **project is being spearheaded by the governments of India and the UK** in **partnership with the International Solar Alliance (ISA) and the World Bank Group.**
- It will bring together a global coalition of national governments, international financial and technical organisations, legislators, power system operators and knowledge leaders to accelerate the construction of the of the new infrastructure needed for a world powered by clean energy.
- The **grid is expected to be set up over the next few years by the ISA**. Once operational, it will transport solar power to different countries.
- **The OSOWOG initiative will, in a way, use renewable energy, that is, solar energy and help in the generation of power all over the world**. This initiative will help in three transitions:
  - Switch of energy production from fossil fuel to clean energy
  - Switch of energy allocation from local balance to cross-border and global distribution
  - Switch of energy consumption from coal, oil and gas to electric-centric consumption.

About International Solar Alliance (ISA):

- The International Solar Alliance (ISA) is **an alliance of more than 120 signatory countries**, most being sunshine countries, **which lie either completely or partly between the Tropic of Cancer and the Tropic of Capricorn.**
- The **primary objective of the alliance is to work for the efficient consumption of solar energy** to reduce dependence on fossil fuels.

- This **initiative was first proposed by Indian Prime Minister Narendra Modi in a speech in November 2015 at Wembley Stadium** (London HA9 0WS, United Kingdom), in which he referred to sunshine countries as Suryaputra ("Sons of the Sun")
- The **alliance is a treaty-based inter-governmental organization.**
- <u>**Countries that do not fall within the Tropics**</u> **can join the alliance** and **enjoy all benefits as other members,** <u>**with the exception of voting rights.**</u>
- The <u>priority areas are basically intended to create a favorable environment for solar energy investments to take root in the country.</u>
  - ➢ Analytics & Advocacy
  - ➢ Capacity Building
  - ➢ Programmatic Support
  - ➢ Readiness and enabling activities
- The United Nations General Assembly **(UNGA) has granted Observer Status to the International Solar Alliance (ISA).**

NEW UPI FEATURES

Why in News?

NPCI launches new payment options on UPI, including conversational transactions, credit line on UPI, and offline money transfers.

About:

- **Credit Line on UPI:** This new offering **enables pre-sanctioned credit lines from banks via UPI and will revolutionize customer access to credit, fostering a more streamlined and digital banking ecosystem.**
- **UPI LITE X and Tap & Pay:** Through this feature, **users can now both send and receive money whilst being completely offline,** therefore, <u>allowing users to</u>

initiate and execute transactions even in areas with poor connectivity, such as underground stations, remote areas, etc.

- **Hello UPI:** The **introduction of conversational UPI payments will augment user experience by enabling them to make voice-enabled UPI payments** via UPI Apps, telecom calls, and IoT devices **in Hindi and English, and will soon be available in several other regional languages.**

- **BillPay Connect** – **Conversational Bill Payments: With BillPay Connect, Bharat BillPay introduces a nationalized number for bill payments across India**. Customers can now conveniently fetch and pay their bills by sending a simple 'Hi' on the messaging app.

- Further, the **UPI Tap & Pay facility**, in addition to the conventional scan-and-pay method, will allow customers to simply tap Near Field Communication- (NFC-) enabled QR codes at merchant locations to complete their payments.

G-20 OUTCOMES

Why in News?

The 18th G20 Summit was held in New Delhi, India on September 9th and 10th, 2023. The summit was the first time India hosted the G20 Leaders' Summit.

About G20 Summit:

- **G20 comprises of 19 countries** (Canada, France, Germany, Italy, Japan, UK, US, Russia, Australia, Canada, Saudi Arabia, India, South Africa, Turkey, Argentina, Brazil, Mexico, China and Indonesia) **and European Union.**

- The **group does not have permanent secretariat.**

- Presidency- The **President is chosen by a rotation system amongst the member countries.**

- **India holds the Presidency of the G20** from December 2022 to 30 November 2023.
- The **theme** of the summit was **"Vasudhaiva Kutumbakam",** which means "The world is one family".
- The theme is **drawn from the ancient Sanskrit text of the Maha Upanishad**.
- **Troika**- It comprises of the **past, present, and future presidents**.
- **Troika 2023** includes **Indonesia, India, and Brazil.**
- Guest- **Every year, the host country chooses other guests.**
- Guest countries- India has invited **Bangladesh, Egypt, Mauritius, the Netherlands, Nigeria, Oman, Singapore, Spain and UAE** as guest countries during its G20 presidency.
- Spain always participates in the G20 summits.
- **G20 Leaders' New Delhi Declaration achieved unanimous consensus,** addressing diverse global issues, from Russia-Ukraine tensions to sustainable development, food security, and launching the Global Biofuel Alliance.

OUTCOMES OF G20 SUMMIT:

DELHI DECLARATION

- ➢ The New Delhi Leader's Declaration was **adopted on September 9, 2023.**
- ➢ The **New Delhi Leader's Declaration was adopted with consensus** on a number of issues.
- ➢ All 83 paragraphs of the 2023 G20 New Delhi Leaders' Declaration were unanimously approved, achieving a remarkable 100 percent consensus, **even with China and Russia in agreement.**
- ➢ The **Countries committed to, accelerating their actions to address environmental crises and challenges,** including climate change.
- ➢ These include **sustainable development goals (SDG), climate finance, energy transitions, using and restoring natural ecosystems, harnessing and preserving**

ocean-based economy, plastic pollution, reducing disaster risk, and building resilient infrastructure.

➤ In the declaration under the **Green Development Pact for a Sustainable Future**, the countries have committed to "urgently accelerate actions to address environmental crises and challenges, including climate change".

➤ **Leaders at the G20 Summit did not reach a consensus on the phase-out of fossil fuels,** despite a United Nations report categorizing this phase-out as "indispensable" for achieving net-zero emissions.

➤ The **G20 nations collectively contribute to approximately 80 percent of global emissions**.

➤ **Nevertheless, the G20 did endorse a goal to triple global renewable energy capacity** and emphasized the necessity for emissions to peak before 2025.

➤ The G20 New Delhi Leaders' Declaration also featured **commitments to mainstream Lifestyle for Environment (LiFE)**, **implement sustainable energy transitions,** provide **sustainable finance,** reaffirm the **pursuit of Sustainable Development Goals (SDGs)**, address plastic pollution, preserve the ocean-based economy, and more.

1) G20 now G21: Admittance of the African Union as a Permanent Member

➤ The **G20 leaders agreed to admit the African Union as a permanent member of the G20,** which is a major step towards increasing the representation of developing countries in the forum.

➤ **Until now only South Africa was a member of the G20.**

➤ The **African Union (AU) is a continental union consisting of 55 member states located on the continent of Africa.**

➤ The AU's membership in the G20

G20 SUMMIT: AFRICAN UNION BECOMES PERMANENT MEMBER

offers an opportunity to reshape global trade, finance, and investment and would provide a greater voice to the Global South within the G20.

➢ It **allows African interests and perspectives to be heard and recognized within the G20.**
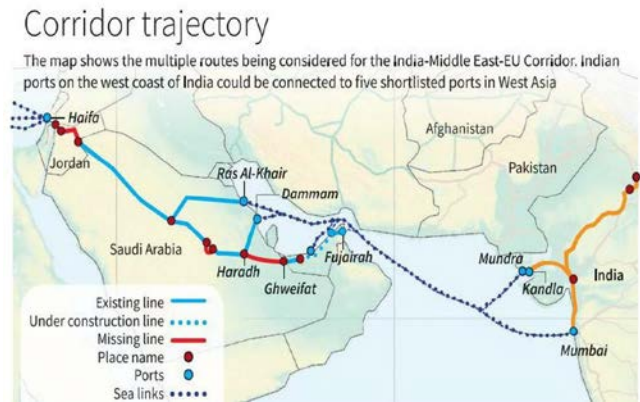
2) Global Biofuels Alliance (GBA)

➢ Global Biofuels Alliance is **an India-led initiative** that aims to develop an alliance of governments, international organizations, and industry **to promote the adoption of biofuels.**

➢ The alliance was **launched with nine initiating members**: *India, the US, Brazil, Argentina, Bangladesh, Italy, Mauritius, South Africa, and the United Arab Emirates.*

➢ GBA Members **constitute major producers and consumers of biofuels.** USA (52%), Brazil (30%) and India (3%), **contribute about 85% share in production and about 81% in consumption of ethanol.**

➢ 19 countries and 12 international organizations have already agreed to join.

➢ The initiative **seeks to position biofuels as a key component of the energy transition and contribute to job creation and economic growth.**

➢ It will **help accelerate India's existing biofuels programs** such as **PM-JIVANYojna, SATAT, and GOBARdhan scheme.**

3) India – Middle East – Europe Economic Corridor (IMEC)

➢ A Memorandum of Understanding **(MoU) was signed between the Governments of India, the US, Saudi Arabia, the European Union, the UAE, France, Germany and Italy to establish the IMEC.**

➢ IMEC is **part of a broader initiative called the Partnership for Global Infrastructure Investment (PGII).**

➢ IMEC is a significant infrastructure project connecting **India, the Middle East, and Europe.**

➢ The project <u>aims to establish a network of transport corridors, including railways and sea lanes.</u>

➢ IMEC is **seen as a response to China's Belt and Road Initiative (BRI),** providing an alternative infrastructure network.

India's Cultural Showcase:

o Bharat Mandapam (inspired from AnubhavMandapam).
o Bronze statue of Lord Nataraja (Chola style).
o Konark Chakra of Odisha's Sun Temple and Image of Nalanda University (used as iconic backdrops).
o Thanjavur Paintings and Dhokra art.
o Brass statue of Lord Buddha sitting under Bodhi tree.
o Diverse musical heritage (Hindustani, Folk, Carnatic, Devotional).

WORLD FOOD PRICE INDEX

Why in News?

The <u>United Nations Food and Agriculture Organization (FAO) reported that the world food price index for food commodities fell to a new two-year low in August.</u>

This decline reversed a previous month's rebound, with most food commodities experiencing decreases, although rice and sugar prices

About Food Price Index:

- The **FAO Food Price Index (FFPI) is a food price index by the Food and Agriculture Organization (FAO) of the United Nations.**
- It **records the development of world market prices of 55 agricultural commodities and foodstuffs.**
- The FFPI is **considered an indicator of future inflation and cost trends** in the food industry.
- **Foodstuffs have been grouped** by the Food and Agriculture Organization (FAO) of the United Nations **into five commodity groups (meat, dairy products, cereals, oils and fats, and sugar).**
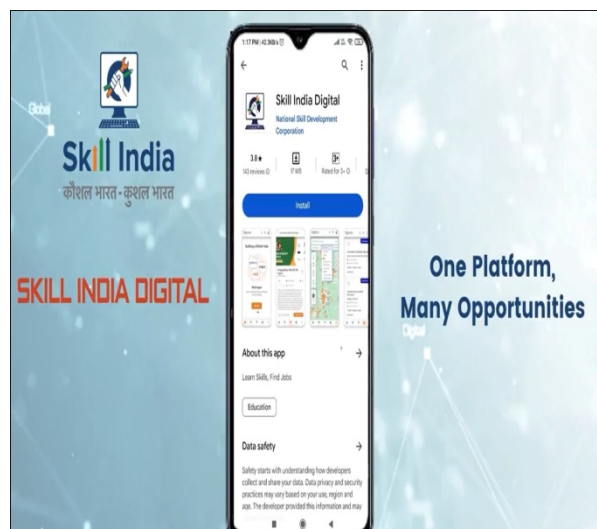
SKILL INDIA DIGITAL

Why in News?

Union Minister for Skill Development and Entrepreneurship, Dharmendra Pradhan on Wednesday **launched Skill India Digital (SID),** a digital platform aimed at synergising and transforming the skills, education, employment, and entrepreneurship landscape of India.

About Skill India Digital (SID):

- SID (Skill India Digital) is the **digital public infrastructure (DPI)** for **skilling, education, employment and entrepreneurship ecosystem of India.**
- The platform is **driven by the vision to make skill development more innovative, accessible and personalised** in its embodiment, focusing on digital technology and industry 4.0 skills.

- It <u>aims to be a breakthrough in accelerating skilled talent hiring, and facilitating lifelong learning and career advancement.</u>
- It will **also act as a comprehensive information gateway for all government skilling and entrepreneurship initiatives.**
- MSDE has created an open-source platform to address the skilling needs of India's diverse demography.
- <u>Skill India Digital is one more step towards harnessing our demographic dividend</u> and establishing India as a global skills hub.
- **Following elements will enhance SID platform** and provide numerous benefits:

  i. Aadhaar/ AI based Facial Authentication
  ii. Digital Verifiable Credentials (DVC)
  iii. Artificial Intelligence (AI) and Machine Learning (ML) Recommendations
  iv. Aadhaar based eKYC
  v. Digital Learning
  vi. Citizen-Centric Approach
  vii. Mobile-First Approach
  viii. Scale and Speed
  ix. Security Measures
  x. Interoperability
  xi. WhatsApp Chatbot
  xii. Ease of Doing Business

NATIONAL ENGINEER'S DAY

Why in News?

Engineer's Day is celebrated in India on September 15 every year to honour the contributions of Bharat Ratna **Sir Mokshagundam Visvesvaraya.**

About Mokshagundam Visvesvaraya:

- Visvesvaraya is regarded in India as one of the foremost civil engineers whose birthday, **15 September**, is **celebrated every year as Engineer's Day in India**, Sri Lanka, and Tanzania.
- He is also **often regarded as "the maker of modern Mysore".**

- **Visvesvaraya worked as a civil engineer for the government of British India** and <u>later as Prime Minister of the Kingdom of Mysore.</u>
- M. Visvesvaraya was **born on 15 September 1861 at Muddenahalli, Kingdom of Mysore** (in present-day Chikkaballapura district, Karnataka).
- He was an **engineering pioneer of India whose genius** reflected in **<u>harnessing of water resources and building and consolidation of dams across the country</u>**.
- His work was becoming so popular that the **Government of India sent him to Aden (Yemen) to study water supply and drainage systems in 1906-07.**
- He <u>designed a project based on his study which was implemented in Aden.</u>
- **In 1915, Visvesvaraya was knighted by the British Crown**, becoming Sir M. Visvesvaraya, <u>in recognition of his outstanding contributions to engineering and public service.</u>
- He was an engineer who had **planned the Indian Economy in 1934.**
- He was **awarded an Honorary Membership of London Institution of Civil Engineers** for an unbroken 50 years.
- **<u>In 1955, he was awarded India's highest civilian honor, the Bharat Ratna,</u>** in recognition of his exceptional contributions to the nation.
- He was the **chief engineer responsible for the construction of the Krishna Raja Sagara Dam in Mysore.**
- He e**stablished the Sir Jayachamarajendra Occupational Institute in Bangalore in 1943.**
- His works, **"Reconstructing India" and "Planned Economy of India"** were published in 1920 and 1934, respectively.
- He **died in 1962 in Bengaluru, Karnataka.**

WORLD OZONE DAY

Why in News?

Ministry of Environment, Forest and Climate Change celebrates **29th World Ozone Day.**

About World Ozone Day:

➢ World Ozone Day **is celebrated on 16th September each year.**

➢ It is **celebrated to commemorate the signing of the Montreal Protocol,** an international environmental treaty for phasing out of production and consumption of Ozone Depleting Substances, **that came into force on this day in 1987.**

➢ World Ozone Day is **celebrated every year to spread awareness among people about the depletion of Ozone Layer and the measures taken/ to be taken to preserve it.**

➢ The **theme for World Ozone Day 2023** is *"Montreal Protocol: fixing the ozone layer and reducing climate change".*

Montreal Protocol:

• The Montreal Protocol is **an international treaty designed to protect the ozone layer** by **phasing out the production of numerous substances that are responsible for ozone depletion.**

• It was **agreed on 16 September 1987**, and **entered into force on 1 January 1989.**

• Since then, it has undergone nine revisions, in 1990 (London), 1991 (Nairobi), 1992 (Copenhagen), 1993 (Bangkok), 1995 (Vienna), 1997 (Montreal), 1998 (Australia), 1999 (Beijing) and 2016 (Kigali).

• **All member parties have specific responsibilities** related to the phasing out of various groups of ozone-depleting substances, controlling ODS trade, reporting of data annually, controlling export and import of ODs, etc.

- **Developing and developed countries have equal but differentiated responsibilities.**
- **As a result** of the international agreement, **the ozone hole in Antarctica is slowly recovering.**
- **Montreal Protocol and its amendments are successful in eliminating up to 99% of Ozone Depleting Substances (ODS)** (long-lived man-made chemicals which destroy the protective ozone layer). The ozone layer is predicted to return to 1980 levels over Antarctica by 2066, 2045 for the Arctic, and 2040 for the remainder of the planet.
- **India has been proactive in implementing the Montreal Protocol,** phasing out harmful substances and achieving reductions.
- Initiatives include:
- **India Cooling Action Plan (ICAP)** to address refrigerant transition, energy efficiency, and technology advancement in cooling systems.
- **The Kigali Amendment to the Montreal Protocol** focuses on reducing the production and consumption of high global warming potential HFCs, with India committed to phasing them out gradually.
- **The Ozone Cell collaborates with the Indian Institutes of Technology** to promote research and development of low global warming potential chemicals.

About Ozone Layer:

- The ozone layer or ozone shield **is a region of Earth's stratosphere** that **absorbs most of the Sun's ultraviolet radiation.**
- It **contains a high concentration of ozone (O3)** in relation to other parts of the atmosphere, although still small in relation to other gases in the stratosphere.
- The ozone layer was discovered in 1913 by French physicists Charles Fabry and Henri Buisson.

- The **ozone layer absorbs 97 to 99 percent of the Sun's medium-frequency ultraviolet light** (from about 200 nm to 315 nm wavelength), <u>which otherwise would potentially damage exposed life forms near the surface.</u>
- The ozone layer, **located in the stratosphere between 10 and 40 kilometers above Earth's surface,** <u>shields us from harmful UV radiation.</u>
- This protective layer, known as stratospheric ozone or good ozone, **prevents adverse health effects like cataracts and skin cancer and safeguards agriculture, forestry, and marine life.**
- In 1976, atmospheric research revealed that the ozone layer was being depleted by chemicals released by industry, mainly chlorofluorocarbons (CFCs).
- **Concerns that increased UV radiation due to ozone depletion threatened life on Earth,** including increased skin cancer in humans and other ecological problems, led to bans on the chemicals, and the latest evidence is that ozone depletion has slowed or stopped.
- The **United Nations General Assembly has designated September 16 as the International Day for the Preservation of the Ozone Layer.**

SHANTINIKETAN

Why in News?

The **World Heritage Committee inscribed** Gurudev Rabindranath Tagore's abode of peace, **Shantiniketan, on UNESCO's World Heritage List.**

About Shantiniketan:

- Shantiniketan is a **neighbourhood of Bolpur town in the Bolpur subdivision of Birbhum district in West Bengal,** India, approximately 152 km north of Kolkata.
- It was **established by Maharshi Devendranath Tagore**, and **later expanded by his son, Rabindranath**

Tagore whose vision became what is now a university town with the creation of Visva-Bharati.

- It **was inscribed on the UNESCO World Heritage List by the World Heritage Committee in 2023.**
- Shantiniketan is **situated at an average elevation of 56 metres.**
- The <u>**area is flanked on two sides by the rivers, the Ajay and the Kopai.**</u>
- Santiniketan earlier <u>had an extensive forest cover, but substantial soil erosion gave certain areas a barren look,</u> the resulting phenomenon is **locally known as khoai.**
- "The **landscape of Shantiniketan is dotted with sculptures by Ramkinkar Baij (1906–1980), larger-than-life figures of Santals** who were in reality part of the landscape.
- The **climate of Shantiniketan is moderately warm**, with summer temperatures at around 35-42 °C (maximum) and winter at 10-15 °C (minimum).

NIPAH VIRUS

Why in News?

Nipah virus infection has re-emerged in Kerala, with two reported deaths and two individuals under treatment.

About Nipah Virus:

- Nipah virus is a **bat-borne**, **zoonotic virus that causes Nipah virus infection in humans and other animals,** a disease with a high mortality rate.
- The **Nipah virus was first identified in 1998**<u>during an outbreak in Malaysia and Singapore</u>. The virus gets its name from the **Malaysian village of Sungai Nipah,** where one of the first major outbreaks occurred.

- **Nipah virus infection can vary widely in its presentation, from mild to severe**. This variability makes early diagnosis challenging.
- **Initial Symptoms:**
    - High Fever
    - Severe Headaches
    - Muscle pain (myalgia)
    - Nausea &Vomiting
    - Sore throat
- As the disease progresses, individuals may develop **more severe symptoms**, which can include:
    - Dizziness
    - Drowsiness
    - Altered consciousness
    - Acute encephalitis
    - Atypical pneumonia
    - Severe respiratory distress
    - Seizures
- In addition to the neurological symptoms, **Nipah virus can also cause respiratory symptoms**, including cough and difficulty breathing. These respiratory manifestations may become more pronounced in severe cases.
- The virus is **primarily transmitted through consumption of contaminated food or direct contact with infected animals,** particularly fruit bats.
- It is **highly lethal,** with **mortality rates ranging from 40% to 75%.**
- **Incubation period: 4 to 14 days.**
- The disease has also been identified periodically in eastern India.
- Currently, **there are no vaccines for both humans and animals.** Intensive supportive care is given to humans infected by the Nipah virus.
- **WHO has identified Nipah as a priority disease** for the WHO Research and Development Blueprint.
- **Intensive supportive care is recommended** to treat severe respiratory and neurologic complications.

3 HOYSALA TEMPLES DECLARED WORLD HERITAGE SITE

Why in News?

Three **Hoysala-era temples in Karnataka recently made it to UNESCO's World Heritage List,** under the collective entry of 'Sacred Ensembles of the Hoysalas'.

About:

➢ Recently, the **Sacred Ensembles of the Hoysala,** the famed Hoysala temples of **Belur, Halebid and Somananthpura in Karnataka** have been added to the United Nations Educational, Scientific and Cultural Organization (UNESCO) **World Heritage Site.**

➢ This inclusion **marks the 42nd UNESCO World Heritage Site in India**

➢ Recently, Santiniketan, which is a town located in the Birbhum district of West Bengal, was also included in UNESCO's World Heritage List.

➢ The 'Sacred Ensembles of the Hoysala' **have been on UNESCO's Tentative list since April 15, 2014.**

➢ The other heritage sites in Karnataka which got into the UNESCO list are **Hampi (1986) and Pattadakal (1987).**

About these 3 temples:

1)**Chennakeshava Temple in Belur**

- Chennakeshava Temple of Belur is a **12th-century Hindu temple** in, **Hassan district of Karnataka state, India.**
- It was **commissioned by King Vishnuvardhana in 1117 CE.**
- It is **on the banks of the Yagachi River in Belur** also called Velapura, an early Hoysala Empire capital.
- The temple was built over three generations and took 103 years to finish.

- It was repeatedly damaged and plundered during wars, repeatedly rebuilt and repaired over its history. It is 35 km from Hassan city and about 220 km from Bengaluru.
- Chennakesava (lit, "handsome Kesava") is a form of the Hindu god Vishnu. The **temple is dedicated to Vishnu** and has been an active Hindu temple since its founding.
- It is a **star-shaped temple, dedicated to Lord Vishnu,** and is the main temple in the temple complex at Belur.
- The **building material used in the Chennakesava temple is chloritic schist, more commonly known as soapstone.**

2) Hoysaleshwara Temple in Halebid

- Hoysaleswara temple, also referred simply as the Halebidu temple, is a **12th-century Hindu temple** dedicated to **Lord Shiva.**
- It is the **largest monument in Halebidu**, a town in the state of Karnataka, India and the **former capital of the Hoysala Empire.**
- The **temple was built on the banks of a large man-made lake,** and sponsored by **King Vishnuvardhana of the Hoysala Empire**
- During the early 14th century, Halebidu was twice sacked and plundered by the Muslim armies of the Delhi Sultanate from northern India
- The **temple was carved from soapstone.**
- This **twin-shrined temple is perhaps the largest Shiva temple built by the Hoysalas.**
- Both the main temples and the Nandi shrines are based on a square plan.
- The **sculptures depict various aspects of Shiva,** as well as scenes from the Ramayana, the Mahabharata, and the BhagavataPurana.
- **Halebid has a walled complex c**ontaining three Jainabasadi (temples) of the Hoysala period as well as a stepped well.

3) Keshava Temple of Somanathapur

- The Chennakesava Temple, also referred to as Chennakeshava Temple and Keshava Temple, **is a Vaishnava Hindu temple** on the **banks of River Kaveri** at **Somanathapura, Karnataka, India.**
- The temple was consecrated in 1258 CE **by SomanathaDandanayaka, a general of the Hoysala King Narasimha III.**
- The temple is **enclosed in a courtyard with a pillared corridor of small shrines**
- The **main temple in the center is on a high star-shaped platform with three symmetrical sanctums (garbha-griha)**, set in a square matrix (89' x 89') oriented along the east–west and north–south axes.
- The **western sanctum was for a statue of Kesava (missing),** the **northern sanctum of Janardhana and the southern sanctum of Venugopala,** all forms of Vishnu.
- It is a **beautiful Trikuta Temple dedicated to Lord Krishna in three forms-Janardhana, Keshava and Venugopala.**
- The main Keshava idol is missing, and the Janardhana and Venugopala idols are damaged.
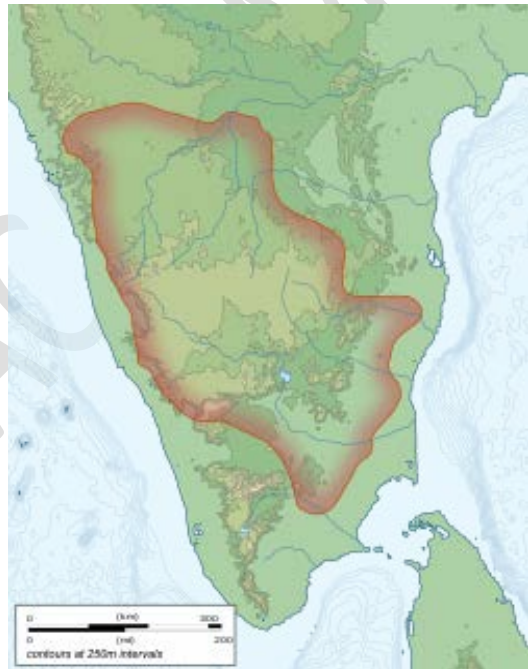
About HOYASALA ARCHITECTURE:

Hoysala architecture, **developed between the 11th and 14th centuries in southern Karnataka under the Hoysala Empire,** is characterized by:

- ➢ A **unique style blending elements of Dravida and Nagara architectures.**
- ➢ Influences from Bhumija, Nagara, and KarntataDravida architectural traditions.
- ➢ Distinctive 'Hoysala Temple' **form with multiple shrines around a central pillared hall in a star-shaped layout.**

➤ **Contain multiple shrines grouped around a central pillared hall** and <u>laid out in the shape of an intricately-designed star.</u>
➤ They are **made out of soapstone** which is a relatively soft stone, the artists were able to carve their sculptures intricately. **This can be seen particularly in the jewellery of the gods that adorn their temple walls.**

About <u>HOYSALAS</u>:

- The Hoysala Empire **was a Kannadiga power originating from the Indian subcontinent** that <u>ruled most of what is now Karnataka between the 10th and the 14th centuries.</u>
- The **capital of the Hoysalas was initially located at Belur, but was later moved to Halebidu.**
- The Hoysala era was an <u>important period in the development of South Indian art, architecture, and religion.</u>
- The **empire is remembered today primarily for Hoysala architecture;** <u>100 surviving temples are scattered across Karnataka.</u>
- The **Hoysalas were feudatories of the Chalukyas of Kalyana, also known as the Western Chalukya Empire**.
- The **most notable rulers of the Hoysala dynasty** were **<u>Vishnuvardhana, VeeraBallala II, and VeeraBallala III.</u>**
- Vishnuvardhana (also known as Bittideva) was the greatest king of the Hoysala dynasty.
- The **Hoysala dynasty was a tolerant and pluralistic society** that patronized **<u>various religions, such as Hinduism, Jainism, and Buddhism.</u>**
- **King Vishnuvardhana was initially a Jain but later converted to Vaishnavism under the influence of the saint Ramanuja.**

About World Heritage Site:

- A World Heritage Site is **a landmark or area with legal protection by an international convention administered by** the United Nations Educational, Scientific and Cultural Organization **(UNESCO).**
- World Heritage Sites are designated by UNESCO **for having cultural, historical, scientific or other forms of significance.**
- The sites are judged to contain "cultural and natural heritage around the world considered to be of outstanding value to humanity"
- To be selected, a World Heritage Site must be a somehow unique landmark which is geographically and historically identifiable and has special cultural or physical significance.
- As of 2023, **there are 42 World Heritage Sites located in India.**
- Out of these, **34 are cultural, 7 are natural, and one, the Khangchendzonga National Park, is of mixed type.**

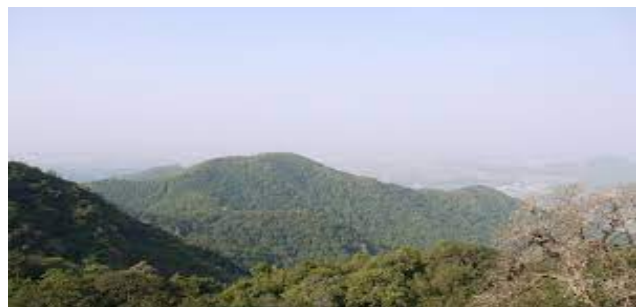## TUNGARESHWARA WILDLIFE SANCTUARY

Why in News?

Supreme Court exempted Maharashtra's Tungareshwar Wildlife Sanctuary (TWS) from creation of a one-kilometer eco-sensitive zone (ESZ) around all Protected Areas in India.

The Surya Regional Water Supply Project has achieved a milestone by completing the tunneling work of the Tungareshwar tunnel recently.

About Tungareshwar Wildlife Sanctuary:

- Tungareshwar wildlife sanctuary **also known as Tungareshwar National Park** is **located** on a plateau east of Vasai and Virar in Palghar district, **north of Mumbai in the Indian state Maharashtra.**

- The **sanctuary is over 85 km2** and <u>**forms a corridor between Sanjay Gandhi National Park and Tansa Wildlife Sanctuary.**</u>
- It <u>has an altitude of about 2177 feet from the base.</u>
- Tungareshwar was **declared a wildlife sanctuary in 2003.**
- There is a **temple at about 3 kms from the Tungareshwar WLS base,** <u>due to which many devotees travel uphill to the temple</u> by auto rickshaw or by foot.
- It has **rich biodiversity, with diverse populations of flora and fauna.**
- **Biodiversity is rich** here, <u>about 600 species of plants, over 250 species of birds, 150 species of butterflies and 36 species of herpetofauna have been recorded.</u>
- The **wildlife sanctuary has three different types of forests – Dry Deciduous, Moist Deciduous and Semi Evergreen.**
- It is currently **facing challenges from irresponsible tourism, deforestation, illegal construction, encroachments for agricultural activities and hunting.**

FIVE-EYES ALLIANCE

Why in News?

The **recent India-Canada standoff** regarding allegations of Indian government involvement in the killing of a separatist leader in Canada has brought attention to the role of the Five Eyes Alliance.

About Five Eyes:

- The Five Eyes (FVEY) **is an intelligence alliance comprising Australia, Canada, New Zealand, the United Kingdom, and the United States.**
- These **countries are parties to the multilateral UK-USA Agreement**, a treaty for joint cooperation in signals intelligence.
- Informally, Five Eyes can also refer to the **group of intelligence agencies of these countries.**

- **These nations collaborate closely on intelligence matters**, <u>sharing information to protect their shared national interests.</u>
- The alliance **traces its origins back to World War II when the UK and the US decided to share intelligence after successfully breaking German and Japanese codes.**
- It began as the Britain-USA (BRUSA) agreement, later evolving into the UK-USA (UKUSA) agreement, with **Canada joining in 1949** and **New Zealand and Australia in 1956.**

INDIA'S 1ST LIGHTHOUSE FESTIVAL

Why in News?

On September 23, India witnessed a historic event as the **country's first-ever lighthouse festival illuminated the picturesque state of Goa.**

<u>About:</u>

- A **Lighthouse is a tower, building, or other type of physical structure designed to emit light from a system of lamps and lenses** and <u>**to serve as a beacon for navigational aid, for maritime pilots at sea or on inland waterways.**</u>
- The **Union Minister of Ports, Shipping & Waterways** inaugurated **India's First Lighthouse Festival from the Fort Aguada Lighthouse in Panjim, Goa.**
- The festival took place with the <u>**aim of transforming historic lighthouses into tourist destinations.**</u>
- It was **a three day event in carnival style with local artists, dance troupes, food and culinary stalls, music concerts and similar activities** to attract common people to Lighthouses.

- The **Ministry of Ports, Shipping & Waterways is planning to develop lighthouses into tourist hubs across the country** under the **'Lighthouse Heritage Tourism'** campaign.
- This festival is a *part of the 'Lighthouse Heritage Tourism' campaign*, which aims to revamp 75 historic lighthouses across India and promote them as tourist spots.
- The initiative aligns with Prime Minister Narendra Modi's vision to transform these lighthouses into captivating tourism sites, showcasing their cultural significance and economic potential.
- The **campaign will be undertaken under the Public–Private Partnership (PPP) model.**

VEERANGANA DURGAWATI TIGER RESERVE

Why in News?

Madhya Pradesh, which has the largest tiger population in India, has **recently established a new protected area called 'Veerangana Durgavati Tiger Reserve'**, making it the **seventh reserve in the state.**

About Veerangana Durgawati Tiger Reserve:

- Veerangana Durgawati Wildlife Sanctuary is a **wildlife sanctuary in Damoh district of Madhya Pradesh, India.**
- **Named after Rani Durgavati, a queen of the Gondi people,** and covering an area of only 24 sq km, the **sanctuary was notified by the Government of Madhya Pradesh in 1996.**
- The **sanctuary hosts 18 species of mammals**, including the leopard, wolf, jackal, Indian fox, the striped hyena and sloth bear besides several species of deer.

- Besides these, the s**anctuary is also home to 177 species of birds, 16 species of fish and reptiles and 10 species of amphibians.**
- The **sanctuary has a varied landscape** consisting of hills, valleys and plains with several streams flowing through them, some of which form pools of water.
- The **vegetation is predominantly tropical mixed dry deciduous forest and some teak forests with trees** accounting for 70 of the 121 species of plants found here.
- A **green pathway will be created to connect Panna Tiger Reserve (PTR) and Durgavati,** facilitating the seamless migration of tigers to the newly established reserve.
- Some areas of the reserve are situated in the Narmada and Yamuna River basins.
- The **Singorgarh fort is located within the sanctuary.**
- Madhya Pradesh is renowned for its **six existing tiger reserves**: **Kanha, Bandhavgarh, Panna, Pench, Sanjay Dubri, and Satpura.**
- The **newly established Veerangana Durgavati Tiger Reserve** covers an extensive area of 2,339 square kilometers and is located approximately 20 kilometers from Bhopal. It spans three districts—Narsinghpur, Sagar, and Damoh.

STATE OF RHINO REPORT 2023

Why in News?

On World Rhino Day in 2023, the **International Rhino Foundation** released a **report called the 'STATE OF THE RHINO REPORT-2023'.**

About:

- **World Rhino Day happens on September 22 each year**.
- World Rhino Day is **a day of awareness for all five rhino species and the work being done to save them.**
- **Since 2011, World Rhino Day has been celebrated internationally on September 22nd** by rhino experts and advocates around the world!
- It was **first announced by the World Wildlife Fund (WWF) – South Africa in 2010.**

Key Findings of the report:

- **Habitat loss, poaching and climate change** continue to **threaten the existence of all five rhino species.**
- **Poaching still threatens all five rhino species** and has increased in several regions that had not previously been targeted.
- **Black rhino populations are increasing** despite poaching pressure.
- However, **South Africa is grappling with devastating poaching losses of its white rhinos**, particularly in certain reserves.
- In Africa, climate change-induced drought is causing myriad detrimental impacts.
- In Asia dramatically increased precipitation and longer monsoon periods could cause more direct deaths of rhinos and humans alike.
- The **collaboration among India, Bhutan, and Nepal,** along with strict government protection and management, **has led to a 20 per cent increase in their population over the past decade.**
- **India is estimated to be home to 3,262 rhinos.**
- One concerning aspect highlighted in the report is that **the status and whereabouts of 12 of the approximately 76 remaining Javan rhinos are unknown.**
- **Sumatran rhinos are also increasingly difficult to find,** raising uncertainty about their population in the wild.
- Changing weather conditions and landscapes can also trigger an increase in invasive plant species, crowding out or overtaking native rhino food plants and causing general habitat degradation.

About RHINO POPULATION:

- ➢ The **global population of rhinos is estimated to be a little over 26,000.**
- ➢ The **rhino population in India, Bhutan and Nepal is increasing and is estimated to touch 4,014.**
- ➢ The **population of Black rhinos, described as critically endangered**, is increasing; the population is estimated at 6,195.
- ➢ However, **populations of White rhinos and Sumatran rhinos are decreasing,** estimated to be about 15,942 and 34 to 47.

➢ **Greater one-horned rhinos (Rhinoceros unicornis) reside primarily in India and Nepal,** though there is a population that occasionally crosses into Bhutan.

About Rhinos:

- A rhinoceros, commonly abbreviated to **rhino, is a member of any of the five extant species** of odd-toed ungulates in the family Rhinocerotidae , it can also refer to a member of any of the extinct species of the superfamily Rhinocerotoidea.

- **Two of the extant species are native to Africa, and three to South and Southeast Asia.**

- The family Rhinocerotidae consists of only four extant genera: **Ceratotherium (white rhinoceros), Diceros (black rhinoceros), Dicerorhinus (Sumatran rhinoceros),** and **Rhinoceros (Indian and Javan rhinoceros).**

- The living species fall into three categories. The two African species, the white rhinoceros and the black rhinoceros, belong to the tribe Dicerotini, which originated in the middle Miocene, about 14.2 million years ago.

- There are **two living Rhinocerotini species, the Indian rhinoceros and the Javan rhinoceros,** which diverged from one another about 10 million years ago.

- The Sumatran rhinoceros is the only surviving representative of the Dicerorhinini

- **Rhinoceroses are some of the largest remaining megafauna**: all weigh at least one tonne in adulthood.

- **They have a herbivorous diet,** small brains 400–600 g for mammals of their size, **one or two horns,** and a **thick 1.5–5 cm protective skin** formed from layers of collagen positioned in a lattice structure.

- They **generally eat leafy material,** although their ability to ferment food in their hindgut allows them to subsist on more fibrous plant matter when necessary.

- **Rhinoceroses are killed by poachers for their horn**s, which are bought and sold on the black market for high prices, leading to most living rhinoceros species being considered endangered.

KAIMUR WILDLIFE SANCTUARY

Why in News?

Bihar is getting its second tiger reserve in Kaimur (Kaimur Wildlife Sanctuary), expected to be established by the end of 2023 or early 2024.

About Kaimur Wildlife Sanctuary:

- Kaimur Wildlife Sanctuary is **situated in Kaimur District and Rohtas District of Bihar.**
- It is the **largest sanctuary in the state** and extended in area of 1,504.96 km2 (581.07 sq mi) in plateaued landscape of Kaimur Range.
- It **was established in 1979.**
- The **major forest types are Tropical Dry Mixed Deciduous, Dry Sal Forests, Boswellia Forests and Dry Bamboo Brakes.**
- It is **home to rare and endangered flora and fauna**.
- **Rohtasgarh Fort and Shergarh Fort are also located** in these forests.
- It also **have numerous Megaliths, Rock painting of prehistoric age** and stone inscription from a bygone era.
- The **main animals found at Kaimur Wildlife Sanctuary** are Bengal tigers, Indian leopards, Indian boars, Indian pangolins, sloth bears, sambar deers, Indian muntjacs, Four-horned antelopes, chitals, nilgais and various species of reptiles, insects and butterflies.
- **Common birds species** are peafowl, grey partridge, quail, Malabar, pied hornbill, swallow, nightjar, drongo and so on.

MS SWAMINATHAN

Why in News?

Monkomb Sambasivan (MS) Swaminathan, hailed as the 'Father of the India's Green Revolution,' passed away at the age of 98.

About MS Swaminathan:

- Mankombu Sambasivan Swaminathan (7 August 1925 – 28 September 2023) was **an Indian agronomist, agricultural scientist, plant geneticist, administrator, and humanitarian.**

- He was **deeply influenced by Mahatma Gandhi's principles** and **India's struggle for independence.**

- He initially aimed to pursue a medical career but **shifted his focus to agriculture due to the Bengal famine of 1942-43,** a tragic event that left a profound impact on him and stirred his passion for improving India's agricultural sector.

- He was *called the 'Father of the Indian Green Revolution'.*

- He has been called the **main architect of the green revolution in India** for his leadership and **role in introducing and further developing high-yielding varieties of wheat and rice.**

- He had done groundbreaking work in the 1960s and 1970s revolutionised Indian agriculture, helping the country to stave off widespread famine and achieve self-sufficiency in food production.

- India was importing close to three million tonnes of food grains in 1949-50, spending 150 crores at current prices.

- Swaminathan's pioneering **efforts involved the development and introduction of high-yielding varieties of wheat and rice,** which **significantly increased food grain production across India.**

- He **served as the Director General of the Indian Council of Agricultural Research (ICAR).**

- He **also served as the Independent Chairman of the Food and Agricultural Organization Council** and held leadership roles in international conservation and agricultural organizations.
- His leadership as **director general of the International Rice Research Institute (IRRI) in the Philippines** was instrumental in his being **awarded the first World Food Prize in 1987.**
- His other notable accolades include the **Ramon Magsaysay Award in 1971** and the **Albert Einstein World Science Award in 1986.**
- He was also conferred with **Padma Shri (1967), Padma Bhushan(1972), and Padma Vibhushan(1989).**
- The **United Nations Environment Programme** has called him *"The Father of Economic Ecology".*

DADASAHEB PHALKE AWARD

Why in News?

Waheeda Rehman will be honoured with the 53rd Dadasaheb Phalke Lifetime Achievement Award for the year 2023.

About Dadasaheb Phalke Award:

- The **Dadasaheb Phalke Award is India's highest award in the field of cinema.**
- It is **presented annually** at the **National Film Awards ceremony** by the Directorate of Film Festivals, an **organisation set up by the Ministry of Information and Broadcasting.**
- The **recipient is honoured for their "outstanding contribution to the growth and development of Indian cinema"** and is selected by a committee consisting of eminent personalities from the Indian film industry.
- The **award comprises a Swarna Kamal (Golden Lotus) medallion, a shawl, and a cash prize of Rs10,00,000 (US$13,000).**

- **Presented first in 1969**, the award was <u>introduced by the Government of India to commemorate Dadasaheb Phalke's contribution to Indian cinema.</u>
- The award is **named after Dadasaheb Phalke, an Indian filmmaker who directed India's first full-length feature film, Raja Harishchandra (1913).**
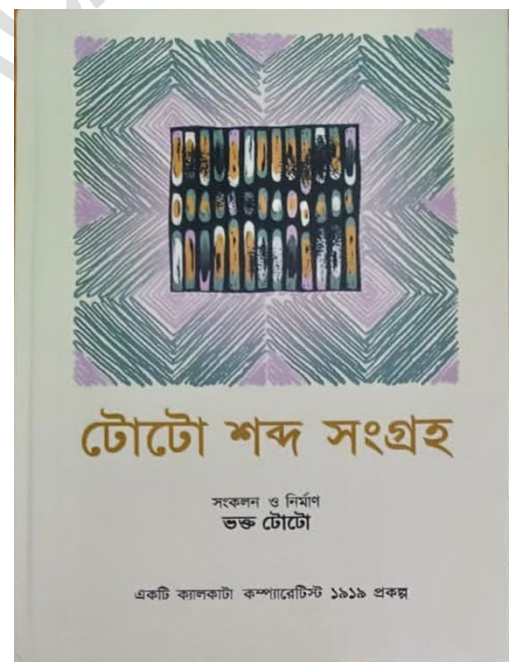
TOTO LANGUAGE

Why in News?

A dictionary titled **"Toto Shabda Sangraha"** is set to be released with the aim of preserving the Toto language which is on the verge of extinction as it is spoken by only 1,600 people in West Bengal bordering Bhutan.

<u>About Toto Language:</u>

- Toto is a **Tibeto-Burman language spoken on the border of India and Bhutan.**
- It is **spoken by the tribal Toto people in Totopara, West Bengal along the border with Bhutan.**
- It is <u>also spoken in Subhapara, Dhunchipara, and Panchayatpara hillocks on India-Bhutan border in Jalpaiguri district, West Bengal (Ethnologue), all of which forms a part of the newly proposed state called Gorkhaland.</u>
- Toto is **<u>listed as a critically endangered language by UNESCO</u>**, with perhaps 1600 speakers.
- The Toto language is **primarily spoken orally**

টোটো শব্দ সংগ্রহ

সংকলন ও নির্মাণ
ভক্ত টোটো

একটি ক্যালকাটা কম্প্যারেটিস্ট ১৯১৯ প্রকল্প

and even though prominent community member **Padma Shri-decorated Dhaniram Toto developed a script as recently as in 2015,** <u>most people either write it in Bengali script or write in Bengali language.</u>

- The **trilingual dictionary will translate Toto words into Bengali and English,** making it accessible to a wider audience, as the Toto script is still in its early stages of development, and the tribe is more familiar with the Bengali script.

About Toto People:

- The **Toto are an isolated tribal group residing only in a small enclave called Totopara** in the Alipurduar district of **West Bengal, India.**
- Totopara is **located at the foot of the Himalayas just to the south of the borderline between Bhutan and West Bengal** (on the western bank of Torsa river), and **considered a part of the proposed new state called Gorkhaland.**

- **Totos were nearly becoming extinct in the 1950s,** but recent measures to safeguard their areas from being swamped with outsiders have helped preserve their unique heritage and also helped the population grow.
- The **total population of Totos according to 1951 census was 321** living in 69 different houses at Totopara.
- In **1991 census, the Toto population had increased to 926** who lived in 180 different houses. **In the 2001 census, their number had increased to 1184 - all living in Totopara.**
- The Totos are considered to have Mongoloid features.
- **Toto family is patrilocal in nature** dominated by nuclear type.
- **Monogamy is common form of marriage among the Toto** but polygamy is not prohibited
- **Totos live in elevated bamboo huts.** These are raised on machans (raised platforms), and have straw thatches.
- They **define themselves close to nature, they mainly perform Nature worship.**
- The **Totos have two main gods whom they worship: Ishpa & Cheima.**
- Anthropologists agree that the **Toto culture and language is totally unique to the tribe,** and is clearly distinguished from the neighbouring Rajbongshis, Koch, Mech or the Bhutanese Sharchop tribes.

GLOBAL INNOVATION INDEX 2023

Why in News?

India retains 40th rank out of 132 economies in the **Global Innovation Index 2023** rankings **published by the World Intellectual Property Organization (WIPO).**

About Global Innovation Index:

- The Global Innovation Index is **an annual ranking of countries** by their capacity for, and success in, innovation, **published by the World Intellectual Property Organization (WIPO).**

- It was **started in 2007 by INSEAD and World Business,** a British magazine.

- **Until 2021 it was published by WIPO, in partnership with Cornell University, INSEAD and other organisations and institutions.**

- It is **based on both subjective and objective data derived from several sources,** including the International Telecommunication Union, the World Bank and the World Economic Forum

- The <u>GII is computed by taking an average of scores from two sub-indices</u>: **the Innovation Input Index and the Innovation Output Index.**

- The **Innovation Input Index** is composed of five pillars that describe attributes of innovation, with each pillar consisting of up to five indicators.

- The I**nnovation Output Index** comprises two pillars.

- <u>**Switzerland secured the top position in the index**</u>, **followed by Sweden, the United States, the United Kingdom, and Singapore.**

- **China ranked 12th among middle and lower-middle-income economies,** with no others in the top 30.

- **India secured the 40th position in the latest GII 2023**, showcasing a remarkable climb from the 81th spot in 2015.

- **India secured the top position among the 37 lower-middle-income countries** and leading among the 10 economies in Central and South America.
- The **consistent improvement in the GII ranking** is owing to the immense knowledge capital, the vibrant start-up ecosystem, and the amazing work done by the public and private research organizations.