

EOS-04

❖ Context

- ISRO is going to launch an Earth Observation satellite from Sriharikota

❖ Key Highlights

- The satellite is fourth in the series of observation satellites
 - EOS-01- launched in Nov 2020.
 - EOS-02 - micro satellite to be flown in a new launch vehicle - Small Satellite Launch Vehicle (SSLV).
 - EOS-03 - Failed last year carried by GSLV-F10.
- The **1710 kg** satellite will be placed in a **sun-synchronous polar orbit of 529 km**. The orbit allows a satellite to pass over a particular location at a fixed time every day.
- The satellite is a **radar imaging satellite** which is going to replace RISAT-1, launched in 2012 but non-functional for the last few years.
- It is designed to provide **high-quality images** for applications such as agriculture, forestry and plantations, flood mapping, soil moisture and hydrology.
- **One big advantage** that **radar imaging** has **over optical instruments** is that it is unaffected by weather, cloud or fog, or the lack of sunlight. It can produce high-quality images in all conditions and at all times, making it suitable for surveillance.
- The satellite will be **carried by 'workhorse of ISRO' - PSLV C-52** (XL -the heaviest version) along with two other satellites - INSPIRESat-1 and INS-2TD.

❖ INSPIRESat-1

- It is a **student satellite** developed by the Thiruvananthapuram-based **Indian Institute of Space Science and Technology** in collaboration with the **University of Colorado** in the United States where it was assembled and tested.
- Students from **Nanyang Technological University** in **Singapore** and **National Central University of Taiwan** have also contributed.
- This satellite will study the **dynamics of the upper atmosphere** and carries an **X-ray spectrometer** for studying **solar flares**.

❖ INS-2TD

- It is a **technology demonstrator** for the **first India-Bhutan joint satellite** that is scheduled to be launched next month.
- It has a **thermal imaging camera** meant for earth observation purposes, like assessment of land and water surface temperature, and identification of forest and tree cover.
- The two countries had signed a space agreement last year, and its first outcome would be the launch of **BhutanSat**, or **INS-2B**, on a PSLV rocket.

SMILE

❖ Context

- Ministry of Social Justice & Empowerment launched the **Central Sector scheme "SMILE: Support for Marginalized Individuals for Livelihood and Enterprise"**.

❖ Key Highlights

- The two sub-schemes of SMILE -
 - Central Sector Scheme for Comprehensive Rehabilitation for Welfare of Transgender Persons.
 - Central Sector Scheme for Comprehensive Rehabilitation of persons engaged in the act of Begging.
- The Ministry has allocated **Rs. 365 crore** for the scheme from **2021-22 to 2025-26**

❖ Scheme for comprehensive rehabilitation for Welfare of Transgender persons

- It provides **Scholarships for Transgender Students** studying in **IX and till post-graduation** to enable them to complete their education.
- It has provisions for **Skill Development and Livelihood** under the PM-DAKSH scheme.
- Through **Composite Medical Health**, it provides a comprehensive package in convergence with PM-JAY supporting **Gender-Reaffirmation surgeries** through selected hospitals.

- The Provision of **Transgender Protection Cell** in **each state** will monitor cases of offences and to ensure timely registration, investigation and prosecution of offences.

❖ Scheme for comprehensive rehabilitation of persons engaged in Begging

- It will focus on Survey and identification, Mobilization, Rescue/ Shelter Home and Comprehensive resettlement of persons engaged in begging.
- Besides, the Housing facility in the form of '**Garima Greh**' ensures food, clothing, recreational facilities, skill development opportunities, recreational activities and medical support etc. to the Transgender community and the people engaged in the act of begging.
- The **National Portal & Helpline** will provide necessary information and solutions to the Transgender community and the people engaged in the act of begging when needed.

World Food Programme (WFP)

❖ Context

- India signed an agreement with the **United Nation's World Food Programme (WFP)** for the distribution of **50,000 MT** of wheat that it has committed to sending to Afghanistan as part of a humanitarian assistance.

Key Highlights

- According to the MoU, the wheat will be **taken through Pakistan to the Afghan border** crossing and handed over to WFP officials in Kandahar beginning February 22.
- The WFP **runs its own logistics network** inside Afghanistan.
 - It is **partnering with civil society** groups.
 - It has **launched a global campaign** for enough food and aid for the population facing malnutrition.
 - The population is estimated to be **half the population of Afghanistan** or 22 million Afghans.
- In addition, **Iran has offered to facilitate some of the wheat** through Chabahar port.
- **Pakistan had shut down all trade with India to protest** the government's changes in Jammu and Kashmir and Article 370 in August 2019.
- The Pakistan government had allowed Afghan exports to India to pass through the Wagah border.
 - It has been making an exception also for medicines from India during the pandemic.

❖ About World Food Programme (WFP)

- Founded in **1961**
- It is the **food-assistance branch of the United Nations**.
- It is the **world's largest humanitarian organization** focused on hunger and food security, and the largest provider of school meals.
- It is a **member of the United Nations Development Group** and part of its Executive Committee.
- It is **headquartered in Rome** and has offices in 80 countries.
- As of 2020, it served 115.5 million people in 80-plus countries, the largest since 2012.

❖ Goals

- **Eradicate hunger** and malnutrition, attain food security and augment nutrition by **2030 (Zero Hunger)**

❖ Functioning

- WFP's operations are **entirely funded through the generous voluntary contributions** of donor governments, institutions, corporations and individuals.
- It is **governed by an Executive Board** which consists of representatives from member states. (36 Member)
- It works in close tandem with the Food and Agriculture Organization (**FAO**) and the International Fund for Agricultural Development (**IFAD**).

❖ Key Reports

- **Global Report on Food Crisis**

Swami Dayananda Saraswati

❖ Context

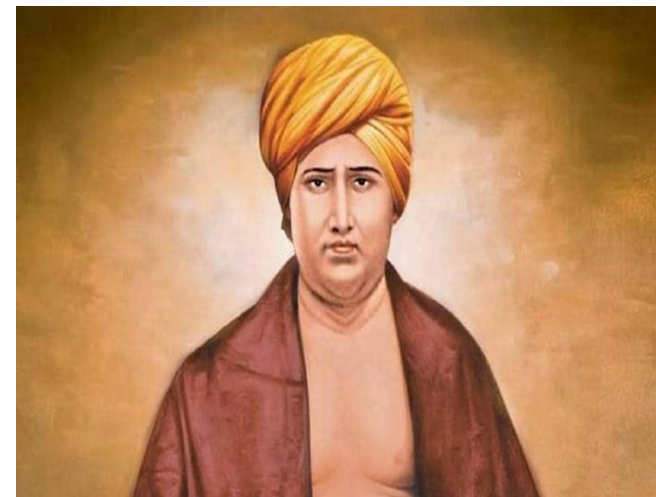
- Recently, the nation paid **tributes to the social reformer and founder of Arya Samaj Swami Dayananda Saraswati Ji** on his 198th birth anniversary.

❖ About Swami Dayananda Saraswati

- Swami Dayanand Saraswati was **born** as Mool Shankar Tiwari on **February 12, 1824**, in Gujarat.
- **Contribution:-**
 - Dayananda Saraswati was an **Indian philosopher, social leader, and reform movement** of the Vedic dharma.
 - The Arya Samaj **opposes caste system** based on birth rather than on merit, untouchability, child marriage, pilgrimages, priesthood and temple offerings.
 - He was the one who first **gave the call for Swaraj as "India for Indians" in 1876**, a call later taken up by Lokmanya Tilak.
 - One of his most influential works is the book **Satyarth Prakash** (means The Light of Truth), which contributed to the Indian independence movement.
 - His followers included **Sri Aurobindo and S. Radhakrishnan**.

❖ Philosophy

- He believed in the **infallible authority of the Vedas**.
- He **advocated the doctrine of Karma and Reincarnation**.
- He **emphasized the Vedic ideals** of Brahmacharya, including celibacy and devotion to God.
- **Founded the Arya Samaj** on April 7, 1875. Through this reform movement, he stressed on One God and rejected idol worship.
- He also **advocated against the extolled position** of priests in Hinduism.



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News in Between the Lines

Solomon Islands



❖ Context

- Recently, the U.S. said that it will open an embassy in the Solomon Islands.

❖ Key Highlights

- This USA announcement emphasizes **building partnerships** with allies in the region as a way to **counter China's growing influence** and ambitions.
- The embassy would be located in the **capital, Honiara**, and would start small, with two U.S. employees and about five local staff.
- The **U.S. previously operated an embassy** in the Solomons for five years before closing it in 1993.

❖ About Solomon Islands

- Solomon Islands is a sovereign country **consisting of six major islands** and over **900 smaller islands in Oceania**.
- It is **located to the east of Papua New Guinea and northwest of Vanuatu**.
- Its **capital, Honiara**, is located on the largest island, Guadalcanal.
- During World War II, the Solomon Islands campaign (1942–1945) saw fierce fighting between the United States, Commonwealth forces and the Empire of Japan, including the Battle of Guadalcanal.

Milan 2022



❖ Context

- The Indian Navy will host its **biggest maritime exercise**, involving at least 35 countries.

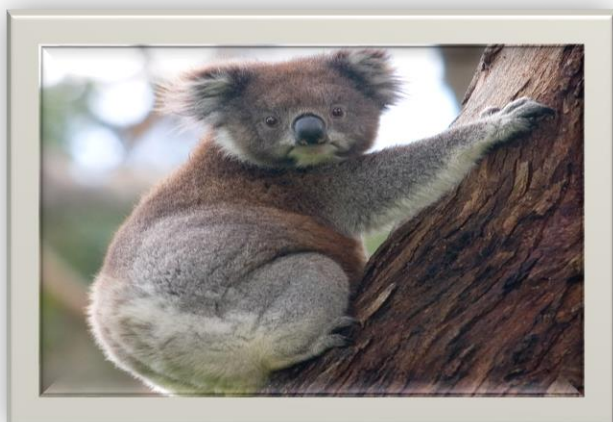
❖ Key Highlights

- It will be **held from February 26 to March 4** off the coast of Visakhapatnam, which includes anti-submarine warfare drills for the first time.
- Around **15 countries are expected to send their ships** and submarines for the exercise, while others will send a delegation.
- Among the many countries that will be sending ships or delegations are the **United States, Russia, Japan, and Australia**.

❖ About Milan Exercise

- It is a biennial, multilateral naval exercise which **started in 1995**.
 - It was initially **limited to South Asian and Southeast Asian countries**.
 - In 2014, participation increased from six regional countries to eighteen
- Formerly, it was held at Port Blair and now is **shifted to Visakhapatnam**.
- The Navy **has held 10 editions of the Milan exercise**, with the theme of "synergy across the seas" to enhance professional interactions between friendly foreign navies and learn best practices from each other, since 1995.
- The areas of cooperation of the exercise includes **capacity building, marine domain awareness, training, hydrography, technical assistance, and operational exercises**.

Koala



❖ Context

- Recently, Australia's much-loved koalas have officially been **classified as 'endangered'**.

❖ Key Highlights

- The impact of **prolonged drought, followed by the black summer bushfires**, and the cumulative **impacts of disease, urbanisation and habitat loss** over the past twenty years have led to this upgradation.

❖ About Koala

- **Region:**
 - They are found in the wild in the southeast and eastern sides of Australia — in **coastal Queensland, New South Wales, South Australia and Victoria**.

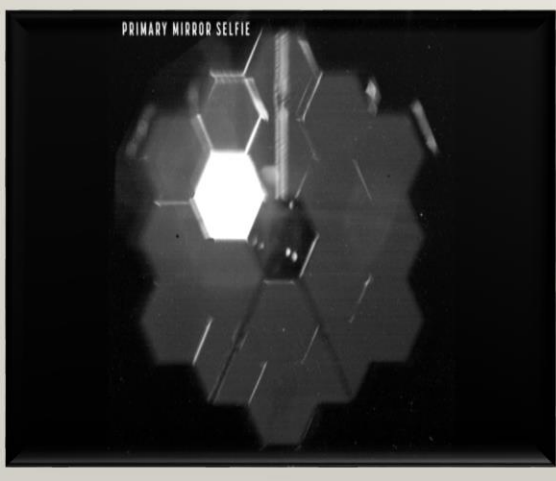
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- **Habitat**
 - They are found in a range of habitats, from **coastal islands** and tall **eucalypt forests** to **low inland woodlands**.
- **Food**
 - They survive on a **strict diet of up to a kilogram** of eucalyptus leaves every day.
 - Due to the **low nutritional value of these leaves**, koalas tend to sleep for extended periods, often up to 18 hours a day, to conserve energy.
- **Threat**
 - Habitat loss, particularly due to **agriculture and the construction of urban settlements, drought, chlamydia**(a sexually transmitted diseases), bushfire etc

James Webb Telescope



- ❖ **Context**
 - Recently, Nasa released **first-ever images taken from the James Webb Space Telescope**, including a 'selfie' of its primary mirror.
- ❖ **Key Highlights**
 - The telescope's first job was to look at **HD 84406**, in the constellation Ursa Major, to start the mirror alignment process.
 - The star has a magnitude of 6.7 and is nearly 269 light-years away from Earth.
 - Webbs **initial alignment mosaic image** shows the same star 18 times over.
 - These images were then stitched together to produce a single, large mosaic which captures the signature of each primary mirror segment in one frame.
 - The image is an indication that **Webb is operating as it should**.
- ❖ **About James Webb Telescope**
 - It headed to an outpost 1.5 million kilometres (9,30,000 miles) from Earth.
 - Successor of the **Hubble Telescope**.
 - The telescope has been developed under an international partnership between **NASA**, the European Space Agency (**ESA**) and the Canadian Space Agency (**CSA**).
 - The telescope will study the **atmospheres of a wide diversity of exoplanets**.
 - It will also **search for atmospheres similar to Earth's**, and for the signatures of key substances such as **methane, water, oxygen, carbon dioxide**, and **complex organic molecules**, in hopes of finding the building blocks of life.

One Ocean summit



- ❖ **Context**
 - The **three day summit (9-11 Feb)** was organised by **France in Brest** with the **support of UN and WB**, in the context of the French Presidency of the Council of the **EU**.
- ❖ **Key Highlights**
 - The summit was the first major event taking place in the decade dedicated to the ocean - **UN Decade of Ocean science for Sustainable Development (2021-2030)**.
 - **Marine areas beyond national jurisdiction** comprise **95%** of the Ocean whose health is essential to the achievement of the **UN 2030 Agenda** for Sustainable Development, in particular **Goal 14 'Life Below Water'**.
 - At the summit - **The High Ambition Coalition on Biodiversity beyond National Jurisdiction**-was launched - to reach an agreement and conclude in 2022, year of the 40th anniversary of the UNCLOS, the international legally binding treaty under the UNCLOS for the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction ("**BBNJ Treaty**").
 - The aim of the treaty would be to **protect by 2030 at least 30% of the Ocean and seas** through an ecologically representative, well connected

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network including highly, and fully protected marine areas and area-based management tools. To reduce pollution, Mediterranean countries and the EU have committed to asking the **International Marine Organisation** to create a **low sulphur emissions zone** across the **Mediterranean**, starting on January 1, 2025.

- The summit also happened in the backdrop of investigation by EU authorities of a mass dead blue whiting fish dump found to be floating in the Bay of Biscay that released by a huge trawler.
- Commitments from the One Ocean Summit will be discussed again at the **UN Ocean Conference** in Lisbon, Portugal, in June and during the **COP27** in Egypt.

Volcanic Lightning



❖ Context

- Bolts of volcanic lightning were seen in the sky over eastern **Sicily** in Italy after a powerful eruption of **Mount Etna**. **Ash** was spread into the air **up to 10 kilometres** above sea level.

❖ Key Highlights

- Volcanic lightning is a mysterious phenomenon that generally occurs at the early stages of a volcanic eruption.
- It happens in **two places: close to the ground** in dense ash clouds, and **high up near the stratosphere** in the plume of volcanic smoke.
- The tiny particles that make up a volcanic plume are tightly compressed beneath a volcano. The airy atmosphere above ground, however, is much less dense. This **change in density** contributes to volcanic lightning.
- As **densely packed particles are violently ejected** in a volcanic plume, they **rub** against each other. Through **friction**, ash particles gain and lose electrons & become **electrically charged**.
- As charged particles ascend the less-dense volcanic plume, the plume experiences charge separation. Positively charged particles become increasingly separated from negatively charged particles.
- When the **charge separation** becomes **too great for air to resist** the flow of electricity, **lightning tears** through the volcanic plume to connect the positively and negatively charged particles.
- In case of **Sky-high volcanic lightning ice is the major cause**. Scientists think that as the plume of ash and water vapour rises from the volcano, ice begins to form in its highest layers. From there, lightning forms the same way it does in a thundercloud: **ice crystals colliding** build up enough of an **electric charge** to trigger a lightning strike.

JIVA



❖ Context

- The **National Bank for Agriculture and Rural Development (NABARD)** launched an **agroecology-based programme JIVA** that will promote **natural farming** under its existing **watershed and wadi programmes** in **11 states**.

❖ Key Highlights

- "**JIVA** is a culmination of several projects under the watershed programme and will be implemented on our existing completed (or near completed) watersheds and wadis in 11 states **covering five agroecological zones**, which are in **ecologically fragile and rain-fed areas**,"
- For JIVA, NABARD will **collaborate with national and multilateral agencies** as this is a **knowledge and skill-intensive programme**.
- NABARD will initially collaborate with the **Commonwealth Scientific and Industrial Research Organization (CSIRO)**, Australia, for simple soil water monitoring technology and ICAR for research support for scientific validation of **natural farming** practices,
- Under the JIVA programme, we expect outcomes in **resilience to climate change, sustainability and food and nutrition security**,"