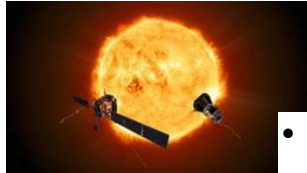


PARKER SOLAR PROBE

NASA's Parker Solar Probe recently executed a short maneuver that kept the spacecraft on track to reach the aim point for the mission's sixth Venus flyby.



About Parker Solar Probe:

- It is a NASA spacecraft designed to study the Sun and its atmosphere.
- It was launched on August 12, 2018, from Cape Canaveral Air Force Station, Florida, and is currently orbiting the Sun in a highly elliptical orbit that takes it closer to the Sun than any previous spacecraft.
- The mission objectives of the Parker Solar Probe are to study the structure and dynamics of the Sun's corona, the Sun's magnetic field, and the solar wind.
- To achieve this, the probe will make a total of 24 close approaches to the Sun over the course of its mission, getting as close as 3.83 million miles from the Sun's surface, which is about 7 times closer than any previous spacecraft.
- In December 2021, the Parker Probe reached the atmosphere of the sun. Since then, it's been looping around the sun, drawing closer each time, and sending back tons of data about everything it encounters.

Features:

- Mass: 685 kilograms at launch.
- Scientific Instruments: Fields Experiment (FIELDS), Integrated Science Investigation of the Sun (ISIS), Wide Field Imager for Solar Probe (WISPR), Solar Wind Electrons Alphas and Protons (SWEAP).
- Parker Solar Probe and its instruments are protected from the Sun by a 4.5-inch-thick (11.43 cm) carbon-composite shield, which can withstand temperatures reaching nearly 2,500 degrees Fahrenheit (1,377 Celsius).

MARS CURIOSITY ROVER

NASA's Curiosity Mars rover recently spotted distinctive hexagonal mud cracks on Mars that scientists speculate may offer the first evidence of wet-dry cycles on the planet.



About Mars Curiosity Rover:

- It is a **S. robotic vehicle** designed to **explore the surface of Mars**.
- It was **launched aboard an Atlas V rocket** from Cape Canaveral Air Force Station, Florida on **Nov. 26, 2011, and landed on Aug. 5, 2012**, after taking eight months and 10 days to reach the Red Planet.
- The rover is **currently roaming Mars' landscape looking for signs of life and learning** about the **Red Planet's unique environment**.
- The rover is **part of NASA's Mars Science Laboratory mission** which tested a **novel landing method** that saw the **spacecraft descend on a parachute** before its **landing system fired up its rockets and hovered** as the rover was lowered down onto the surface.
- **Features:**
 - It is about **3 metres long and weighs about 900 kg**.
 - It **does not rely on solar cells for its energy needs** but rather **draws its electric power from a thermoelectric power generator**, with the **heat source being the radioactive decay of plutonium** and the heat sink being Mars's atmosphere.
 - According to NASA, Curiosity **has four main science goals** in support of the agency's Mars exploration program:
 - Determine **whether life ever arose on Mars**.
 - **Characterize the climate** of Mars.
 - **Characterize the geology** of Mars.
 - **Prepare for human exploration**.

What is NASA's Perseverance rover?

- It is a **robotic explorer to land on Mars** as part of **NASA's ongoing Mars 2020 Mission**.

- **Main Job:** Seek signs of ancient life and collect samples of rock and regolith (broken rock and soil) for possible return to Earth.
- The rover will collect samples of rock and soil, encase them in tubes, and leave them on the planet's surface to be returned to Earth at a future date.
- **Launch:** It was launched on **July 30, 2020** from Cape Canaveral, Florida.
- **Landing:** Successfully landed on the surface of Mar's Jezero Crater on **Feb. 18, 2021**.
- **Features:**
 - It is about **3 metres long, 2.7 metres wide, and 2.2 metres tall**.
 - It is about the **size of a car**, but weighs only about **1,025 kilograms** with all instruments on board.
 - **Power source:** **Multi-Mission Radioisotope Thermoelectric Generator (MMRTG)**. Converts heat from the radioactive decay of plutonium into electricity.

MUSHKBUDJI RICE

Recently, Mushkbudji Rice received the Geographical Indication (GI) tag.



About Mushkbudji Rice:

- It is short bold aromatic rice grown in **higher reaches of Kashmir valley**.
- The cooked rice is unique and possesses a harmonious blend of taste, aroma and rich **organoleptic properties**.
- It is mainly is grown in areas of **Sagam, Panzgam and Soaf Shali of district Anantnag** and Beerwah belt of district Budgam.
- The consumption of aromatic rice in Kashmir has now been limited to special occasions, marriages, and festivals.

What is a Geographical Indication Tag?

- It is a sign used on products that **have a specific geographical origin and possess qualities or a reputation** that are due to that origin.

- This is typically used for **agricultural products, foodstuffs, wine and spirit drinks**, handicrafts and industrial products.
- The Geographical Indications of Goods (**Registration and Protection**) Act, 1999 seeks to provide for the registration and better protection of geographical indications relating to goods in India.
- This GI tag is **valid for 10 years** following which it can be renewed.

INVESTOR EDUCATION AND PROTECTION FUND AUTHORITY (IEPFA)

Recently, in a step towards financial literacy, Investor Education and Protection Fund Authority (IEPFA) launched two Investor Awareness Vans titled “Niveshak Sarathi as part of the Azadi ka Amrit Mahotsav celebrations.



About Investor Education and Protection Fund Authority (IEPFA)

- It was established in 2016 under the **Companies Act, of 2013**.
- The Authority is entrusted with
 - The responsibility of administration of the Investor Education Protection Fund (IEPF).
 - Make refunds of shares, unclaimed dividends, matured deposits/debentures etc. to investors and promote awareness among investors.
- **Nodal Ministry:** Ministry of Corporate Affairs

Key facts about the Investor Education Protection Fund (IEPF).

- It has been established under Section 205C of the Companies Act, 1956 by way of the **Companies (Amendment) Act, 1999**.
- The following amounts that remained unpaid and unclaimed for a period of seven years from the date they became due for payment are credited to the Fund:
 - Amounts in the **unpaid dividend accounts of the companies**
 - The application money received by companies for allotment of any securities and due for refund
 - **Matured deposits with companies**
 - Matured debentures with companies

- Grants and donations are given to the fund by the Central Government, State Governments, companies or any other institutions for the purposes of the Fund
 - The interest or other income received out of the investments made from the fund
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RAJYA SABHA PASSES THE INTER-SERVICES ORGANISATION BILL

Why in news?

- The Rajya Sabha has passed the Inter-Services Organisation (Command, Control & Discipline) Bill – 2023. It was passed by the Lok Sabha on August 4.
- The bill empowers the commander-in-chief and the officer-in-command of inter-services organisations with disciplinary and administrative powers over personnel from the other services serving in them.

Key provisions of the Inter-services Organisations (Command, Control and Discipline) Bill, 2023

- **Applicability**
 - It is applicable to all personnel of regular Army, Navy and Air force, and to persons of other forces as notified by the Central Government, who are serving in or attached to an Inter-Services Organisation.
- **Empowers Commander-in-Chief of Inter-Services Organisations**
 - The bill seeks to empower Commander-in-Chief and Officer-in Command of Inter-Services Organisations with all disciplinary and administrative powers.
 - This is to enable them to take decisions related to personnel serving in or attached to such organisations.
 - At present, all Army, Navy and IAF personnel are governed by their service-specific acts.
 - The service personnel serving in or attached to an Inter-Services Organisation will continue to be governed by their respective Service Acts.
 - However, this bill will empower heads of Inter-Services Organisations to exercise all the disciplinary and administrative powers as per the existing service acts, and related rules and regulations, irrespective of the service they belong to.

- **Empowers the central government to constitute an Inter-Services Organisation**
 - The bill also empowers the central government to constitute an Inter-Services Organisation.
 - This paves the way for the creation of integrated theatre commands — a major military reform on cards.
 - The bill will aid better coordination among the defence forces, and bring about better jointness and integration within the military.
 - This is significant against the backdrop of new challenges involved in modern warfare which is more technology and network-centric.
- **The bill is an Enabling Act**
 - The bill is essentially an Enabling Act and it does not propose any change in the existing Service Acts/Rules/Regulations.
 - Service personnel when serving in or attached to an Inter-Services Organisation will continue to be governed by their respective Service Acts.

Is this bill a precursor to theaterisation?

- Theaterisation is a concept which seeks to integrate the capabilities of the three services - army, air force and navy – in order to optimally utilise their resources for wars and operations.
- A theatre command/unit will be created by integrating elements/assets from all the three services.
- Currently, the plans are to establish three theatre commands—**one facing Pakistan, one facing China, and a maritime theatre command**, largely taking care of the peninsular India.
- With the Indian Armed Forces drawing up the finer details of the integrated theatre commands, this bill can be considered one of the several steps paving the way for their establishment.
- As per the defence minister, if theaterisation happens, this Act, through a normal notification, would be effective on theatre commands too.

3 NEW BILLS INTRODUCED IN LOK SABHA TO REPLACE CRIMINAL LAWS

Why in news?

- The Centre has introduced three new Bills in the Lok Sabha that propose a complete overhaul of the country's criminal justice system.

- The three Bills are set to replace the Indian Penal Code (IPC), 1860; the Code of Criminal Procedure (CrPC), 1973 and the Indian Evidence Act, 1872.
- IPC is set to be replaced by the **Bharatiya Nyaya Sanhita, 2023**.
- The CrPC will be replaced by the **Bharatiya Nagarik Suraksha Sanhita, 2023**.
- The Indian Evidence Act will be replaced by the **Bharatiya Sakshya Bill, 2023**.

Need for new bills

- **Colonial legacy**
 - From 1860 to 2023, the country's criminal justice system functioned as per the laws made by the British.
 - The laws were drafted during colonial times and contain archaic language and concepts that might not accurately reflect current social norms, values.
- **Advances in Technology**
 - The rapid advancement of technology has introduced new dimensions to crime, evidence, and investigation.
- **Simplification and Streamlining**
 - The laws have become complex over time, leading to confusion among legal practitioners, law enforcement agencies, and the general public.
 - Simplifying and streamlining the legal framework can enhance transparency and understanding.
- **Evidence Collection and Presentation**
 - The Indian Evidence Act was enacted before the advent of modern forensic science and technological tools.
- **Various reports highlighted the need for reforms in criminal laws**
 - The department-related Parliamentary Standing Committee on Home Affairs in its 146th report had recommended that there is a need for a comprehensive review of the criminal justice system of the country.
 - It was also pointed out that the Parliamentary Standing Committee in its 111th and 128th reports had also highlighted the need for reforms in criminal laws.

Criminal law reforms committee

- **About**

- The Ministry of Home Affairs through a notification dated May 4, 2020, constituted a committee to review the three codes of criminal law.
- It was headed by Prof. (Dr.) **Ranbir Singh**, former Vice Chancellor of National Law University (NLU), Delhi.

- **Mandate**

- The mandate of the committee was to ‘recommend reforms in the criminal laws of the country in a principled, effective and efficient manner.

- **Criticism**

- The committee came under attack for its lack of diversity and the absence of transparency in its functioning.
- Clarifications were also sought on whether the committee would be functioning independently of the MHA.

Key highlights of the Bharatiya Sakshya Bill, 2023

- The Indian Evidence Act will be replaced by Bill which proposes changes to 23 provisions and introduces one new provision. It contains 170 sections in total.
- The Bill permits the admissibility of an electronic or digital record as evidence and will have legal validity as documentary evidence.

[BANDHAVGARH TIGER RESERVE](#)

A seven-month-old female tiger cub was found dead under suspicious circumstances at



Bandhavgarh Tiger Reserve.

About Bandhavgarh Tiger Reserve:

- **Location:**

- It is located in the **Umria district of Madhya Pradesh.**
- It is spread over the **Vindhya hills.**

- Bandhavgarh was declared a national park in 1968 and then **became Tiger Reserve in 1993.**
- It derives its name from the most prominent hillock in the area, which was said to be given by **Hindu Lord Rama to his brother Lakshmana** to keep a watch on Lanka. Hence the name **Bandhavgarh (Sanskrit: Brother's Fort).**
- It is **known for the Royal Bengal Tigers.**The density of the tiger population at Bandhavgarh is the highest known in India as well as in the world.
- **Topography:** Varies between **steep ridges, undulating forests and open meadows.**

Flora:

- The vegetation of Bandhavgarh is specially **filled with Sal forest in the valleys, and Bamboo stretches on the lower slopes** of the region.
- Some of the most famous floral species include Saj (*Terminalia tomentosa*), Dhaora (*Anogeissus latifolia*), Tendu, Arjun (*Terminalia arjuna*), Amla (*Emblica officinalis*), Palas (*Butea monosperma*) etc.

Fauna:

- The important prey species consists of chital, sambhar, barking deer, nilgai, chinkara, wild pig, chowsingha, langur and rhesus macaque.
 - Dependent upon them are the major predators like tiger, leopard, wild dog, wolf and jackal.
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