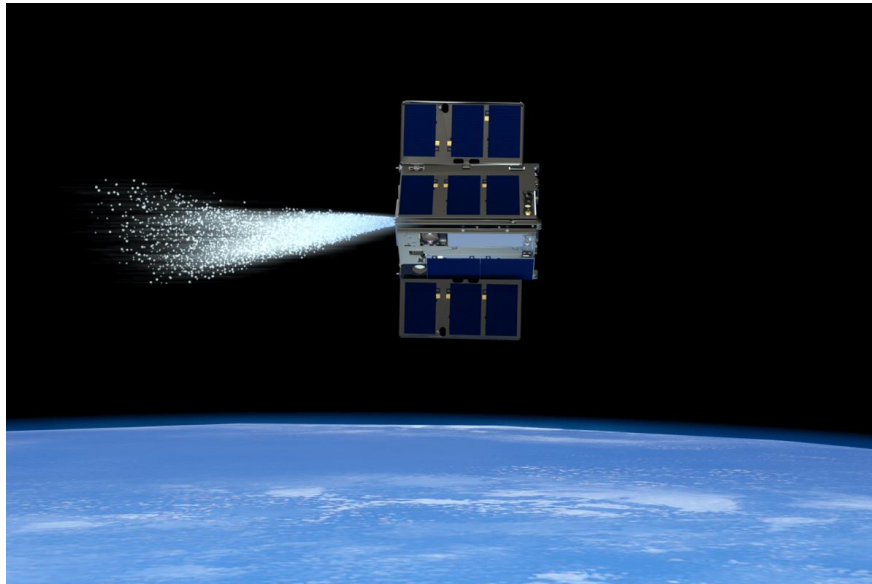


December - 08

## SCIENCE AND TECHNOLOGY

### Steam-propelled spacecraft

- ❖ In a world first, Japan's space agency announced it successfully used steam to propel a spacecraft - EQUULEUS toward the Moon.
- ❖ It was launched as one of the payloads aboard Nasa's Orion spacecraft.
- ❖ As per JAXA, this is the world's first successful orbit control beyond low-Earth orbit using a water propellant propulsion system.
- ❖ It uses waste heat from the communication kit to convert the water into steam that is squirted out to produce thrust.
- ❖ The CubeSat is expected to reach the second Earth-Moon Lagrange point (EML2) in approximately one-and-a-half years.
- ❖ Lagrangian points are locations in space where the gravity of large objects, such as planets, are balanced out by the centrifugal force of a spacecraft, allowing for a very stable orbit.



## REPORTS AND INDICES

### Social Hostilities Index

- ❖ In 2020, India has been ranked first in the Social Hostilities Index (SHI) released by US think-tank Pew Research Center.

- ❖ India's SHI in 2020 was worse than neighbouring Pakistan and Afghanistan.
- ❖ This is also a further increase in its own index value for 2019.
- ❖ SHI measures act of religious hostility by private individuals, organisations or groups in society.
- ❖ The SHI measures act of religious hostility by private individuals, organizations or groups.
- ❖ The index comprises 13 metrics, including religion-related armed conflict or terrorism and mob or sectarian violence.
- ❖ The Government Restrictions Index (GRI) looks at laws, policies and state actions restricting religious beliefs and practices.
- ❖ China was ranked the worst with a score of 9.3.
- ❖ India's 34th rank was enough to categorize it among countries with "high" levels of such government restrictions.
- ❖ The GRI comprises 20 measures, including efforts by governments to ban particular faiths, prohibit conversion, limit preaching or give preferential treatment to one or more religious groups.
- ❖ 2020 was not India's worst year on either index: 2016 was the worst with respect to social hostilities, and 2018 on government restrictions.

## India fared the worst on religion-based social hostilities in 2020

Countries with highest Social Hostilities Index (SHI), 2020  
(lower score = better)

Rank	Score	Rank	Score
1	9.4	7	7.6
2	8.5	3	7.5
3	8	8	7.4
4	8	9	7.4
5	7.9	10	7.4

## Global Aviation Safety Rankings 2022

- ❖ International aviation body ICAO has ranked India at 48<sup>th</sup> spot among the safest countries for aviation.

- ❖ India was earlier ranked at 102nd spot in 2018.
- ❖ Now it is among the top 50 countries with best aviation safety.
- ❖ The rankings are topped by Singapore.
- ❖ It is followed by the UAE and Republic of Korea.
- ❖ India's ranking was ahead of China (49).
- ❖ Neighbouring Pakistan is at the 100th spot.



## STATES

### The first drone station

- ❖ The air delivery of 1.5 kg of medicines to a remote location marked the unveiling of India's first drone station for transporting drugs in Meghalaya.
- ❖ The drone, a certiplane X3 designed by a start-up, took 36 minutes to deliver the payload.
- ❖ Jengjal, 32 km from Tura, Meghalaya's largest urban centre after capital Shillong, was chosen as a strategic drone station for drug delivery.

- ❖ It is almost 2 hours less than the time taken by a semblance of a road.
- ❖ This drone has a capacity of flying with a payload of up to 4 kg.



## PERSONALITIES, AWARDS, AND EVENTS

### NCBC chairperson



- ❖ Former Union Minister Hansraj Gangaram Ahir has assumed charge as Chairperson of the National Commission for Backward Classes (NCBC).
- ❖ NCBC was initially constituted by the Central Govt by the National Commission for Backward Classes Act, 1993.



- ❖ Under the 102nd Constitutional Amendment Act, 2018, NCBC became a constitutional body.
- ❖ It was established under Article 338B of the Indian Constitution.
- ❖ The Chairperson, Vice-Chairperson and other Members of the Commission shall be appointed by the President
- ❖ The conditions of service and tenure of office shall be decided by President.

### **First G20 Sherpa meeting**



- ❖ The first G20 Sherpa meeting under India's presidency begins in Udaipur, Rajasthan.
- ❖ India's G20 Sherpa Amitabh Kant is leading the four-day meeting.
- ❖ Representatives from 19 countries including the European Union and nine special invitee countries participated in the discussion.
- ❖ Important conversations on some of the most pressing issues of recent times are discussed.
- ❖ India formally assumed the year-long Presidency of the G-20 on December 1, 2022.

## **IMPORTANT DAYS**

### **Indian Navy Day - December 04**

- ❖ It aims to recognise the contributions and accomplishments of Indian Naval forces. Indian Navy Day
- ❖ The day also commemorates the launch of Operation Trident against Pakistan during the Indo-Pakistan War in 1971.

- ❖ The Indian Navy is a three-dimensional force that protects our country's interests above, on, and beneath the ocean's surface.
- ❖ Chhatrapati Shivaji Bhosle, considered as the "Father of the Indian Navy" created the country's naval force.



### **International Cheetah Day - December 04**

- ❖ Every year, International Cheetah Day is celebrated on 4th December since 2010.
- ❖ Dr. Laurie Marker designated the day in remembrance of Khayam, a cheetah she raised from a cub at Wildlife Safari in Winston, Oregon.
- ❖ Khayam was trained for the first research project in re-wilding and inspired her first trip to Namibia in 1977.
- ❖ International Cheetah Day coincides with the day for wildlife conservation.
- ❖ The cheetah is popularly known as the fastest animal on earth.
- ❖ It can reach a top speed of 70 mph in just three seconds.
- ❖ At present the majority of the animal is found in Namibia and South Africa.
- ❖ It was declared as an extinct animal in 1954 by the Indian government.

- ❖ The Government brought Cheetah from Namibia and settled in Kuno National Park in Madhya Pradesh.



### **International Day of Bank - December 04**

- ❖ It aims to recognise the importance of multilateral and international development banks in financing sustainable developments.
- ❖ In 2019, the United Nations General Assembly designated December 4 as the International Day of Banks.
- ❖ It is celebrated for the first time in 2020.



### **World Soil Day - December 05**

- ❖ The event aims to raise awareness of the importance of soil quality for human well-being, food security and ecosystems.
- ❖ The day was first considered by the International Union of Soil Sciences in 2002.



- ❖ In December 2013, the UN General Assembly designated 5<sup>th</sup> December as the World Soil Day.
- ❖ The theme for 2022 World Soil Day is 'Soils: Where Food Begins'.

