

**26 MARCH 2019**

**Chandrayaan 2 to carry NASA's instrument**

**In news:**

India's lunar mission Chandrayaan 2, scheduled to launch next month, will carry NASA-owned laser retro-reflector arrays that allow scientists to make precise measurements of the distance to the Moon.

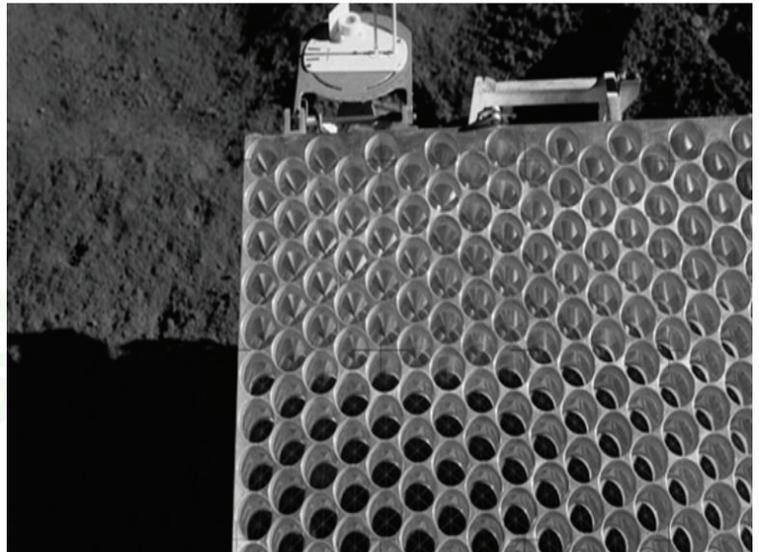
Israeli lander **Beresheet**, due to touch down April 11, also carried the same instrument.

**In brief:**

Retro-reflectors are sophisticated mirrors that reflect laser light signals sent from the Earth. The signals can help pinpoint precisely where the lander is, which scientists can use to precisely calculate the Moon's distance from Earth.

While five such instruments already exist on the lunar surface, they have some flaws.

The scientists could see the daily rise and fall of any surface the device is resting on as that surface expands and contracts with the Moon's dramatic temperature changes.



**About the Mission:**

Chandrayaan-2 is a 3,890-kg spacecraft, to be launched onboard the Geosynchronous Satellite Launch Vehicle (GSLV) Mk-3, will orbit around the Moon to study its conditions and collect data of its topography, mineralogy and exosphere.

Its total cost is expected to be Rs. 800 crore.

The lander has been named "Vikram" as a tribute to the pioneer of India's space programme and former ISRO chairman (1963-71) Vikram Sarabhai. It has a mass of 1471 kg, including the 27 kg rover. The rover is a 6-wheeled vehicle which uses solar power.

When Chandrayaan-2's rover lands on the Moon, India will become the fifth country in the world to achieve the feat after Soviet Union in 1959, the US in 1969, China in December 2013 and Israel in 2019.

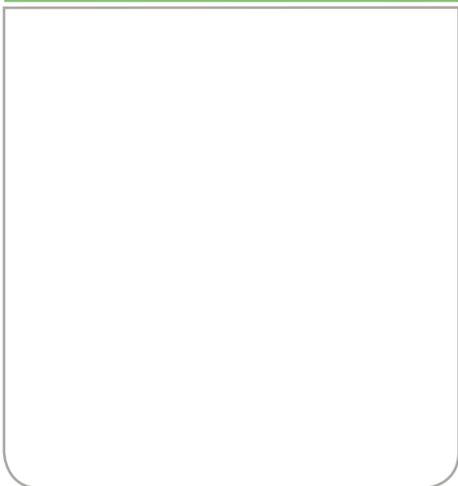
**'Jio-fuelled' competition to dent telcos revenue**

**In news:**

The Indian telecom industry is expected to see a decline in revenue for the third straight year in 2018-19 amid intense competition.

Industry revenue, which fell by 11% in FY2018 to Rs.2.1 lakh crore, is

**Note**



estimated to decline further by 7% in FY2019. The industry earnings before interest, tax, depreciation and amortisation (EBITDA) is estimated to reduce by 18% in FY2019, following a 21% erosion in FY2018.

**In brief:**

The launch of services by RJio (Reliance Jio) marked the beginning of intense price-based competition, which has largely continued. The pricing pressure exerted on the industry manifested in severe deterioration in the financial performance, marked by decline in revenue, lower profitability, even losses for some telcos and low cash generation

The agency noted that the stress on the industry had impacted the government's non-tax revenue from the sector with lower licence fee (LF) and spectrum usage charges (SUC). These two combined declined by 24% in FY18 and are expected to decline further in FY19.

**About ICRA:**

- It was set up in 1991 and was originally named Investment Information and Credit Rating Agency of India Limited (IICRA India)
- It is headquartered in Gurugram.
- The international Credit Rating Agency Moody's Investors Service is ICRA's largest shareholder.

**SC seeks Centre's reply to plea on jail terms****Why in News:**

- The Supreme Court sought a response from the government to a petition that various jail terms awarded to a convict under special laws on corruption and terrorism should run consecutively, as in countries like the U.S., and not concurrently.

**In Brief:****Special laws on corruption****1. Prevention of corruption Act 1988**

- Provides a definition for corruption and lists out the acts which would amount to as corruption such as bribes, gifts for favors etc.
- Seeks to create a balance between need to bring corrupt to the books and protect honest officers. Prosecution of an officer requires sanction from the government
- Includes employees of the central government and the union territories, the employees of public undertakings, nationalized banks etc.
- Special judges are appointed for trial under the act who can order a summary trial in appropriate cases

**2. Benami property Act 1988**

- Recent amendments have widened the definition of the benami property and allow the government to confiscate such properties without any hassles of court approvals

**3. Central Vigilance commission Act 2003****Note**

- Gives statutory status to CVC. Central Vigilance Commissioner shall be appointed by President on recommendation of a Committee consisting of the PM, MHA and LoP in LS
- Covers AIS officers, Gazetted officers of center, senior members of the PSB banks etc.
- Commission, while conducting the inquiry has all the powers of a Civil Court

#### 4. Right to Information Act 2005

- Makes disclosure of information a legal right of the public to promote transparency
- Section 4 mandates proactive disclosure of the information and digitization of the records
- Many RTI activists have used it to bring out the irregularities in the functioning of the public authorities e.g. Vyapam scam of MP



#### 5. Whistleblower protection Act 2014

- More than 60 RTI activists have been murdered and many more assaulted due to lack of protection
- WPA accords special protection to the people who disclose the acts of wrongdoing in the government. Provides anonymity and protection from prosecution under acts such as Official secret act 1923

#### 6. Lokpal and Lokayukta Act 2013

- Appoints an independent authority Lokpal at center and Lokayukta at states to probe into the complaints of wrongdoing by the public servants
- Lokpal will be appointed by committee consisting of PM, LoP, CJI, Speaker and an eminent jurist.

### Special Laws on Terrorism:

#### TADA

- Terrorist and Disruptive Activities (Prevention) Act, 1987, was at one time the main law used in cases of terrorism and organised crime.
- But due to rampant misuse, it was allowed to lapse in 1995.
- The Act defined what “terrorist act” and “disruptive activities” mean, and put restrictions on the grant of bail.
- It also gave enhanced power to detain suspects and attach properties.
- The law made “confessions given to a police officer” admissible as evidence.
- Separate courts were set up to hear cases filed under TADA.

#### POTA

- In wake of the 1999 IC-814 hijack and 2001 Parliament attack, there was a clamour for a more stringent anti-terror law.
- This came in the form of “Prevention of Terrorism Act” (POTA), 2002.
- A suspect could be detained for up to 180 days by a special court.

#### Note



- The law made fundraising for the purpose of terrorism a “terrorist act”.
- A separate chapter to deal with terrorist organisations was included.
- Union government was mandated to maintain a list of organised that would fall under the act’s radar and had full authority to make additions or removals.
- However, reports of gross misuse of the Act by some state governments led to its repeal in 2004.

## UAPA

- **Strengthening** - In 2004, the government chose to strengthen the “Unlawful Activities (Prevention) Act, 1967, in accordance with international standards.
- It was amended to overcome some of the difficulties in its enforcement and to update it to match “Financial Action Task Force” (international) guidelines.
- By inserting specific chapters, the amendment criminalised the raising of funds for a terrorist act, and holding of the proceeds of terrorism.
- Membership of a terrorist organisation, support to a terrorist organisation, and the raising of funds for a terrorist organisation were also made a crime.
- It increased the time available to law-enforcement agencies to file a charge sheet to six months from three.
- **Further** - The law was again amended in 2008 after the Mumbai Serial attacks, and again in 2012 to make it more comprehensive.
- The definition of “terrorist act” was expanded to include offences that threaten economic security, and counterfeiting Indian currency.
- Procurement of weapons was also made a crime under the act.
- Additional powers were granted to courts to provide for attachment or forfeiture of property or the proceeds of terrorism involved in the offence.

## Fulani tribes



### Why in news?

- More than 130 Fulani ethnic people were killed in an attack on a village in Central Mali on Saturday by militants belonging to Dogon community.
- The clash between Fulani and Dogon community has been due to access to land and water.
- The Dogon also accuse Fulanis of ties to jihadist groups like Al-Qaeda.

### In Brief:

### About Fulani tribes:

- The Fulani tribes are one

of the largest ethnic groups in the Sahel and West Africa., widely dispersed across

### Note



the region.

- They are considered to be largest nomadic pastoral community in the world.

## The Mueller report

### Why in news?

The Mueller Report found that neither Trump nor anyone in his campaign conspired or coordinated with the Russian government to help him win the US Presidential election of 2016.

### About Mueller Probe:

- The Special Counsel investigation of 2017 to 2019 also referred to as the Mueller probe was a United States law enforcement and counterintelligence investigation of the Russian government's effort to interfere in the 2016 presidential election.
- Rober Mueller is an American attorney and the Special Counsel of this probe.



## PSLV-C45 project will mark several firsts for ISRO

### Why in News:

- Emisat mission scheduled for launch on April 1

### In Brief:

- 1. The **PSLV-C45/Emisat mission** scheduled for an April 1 lift-off from Sriharikota will be a memorable one for the Indian Space Research Organisation (ISRO).

### Why is it so important?

1. It will be ISRO's first attempt at placing payloads in three different orbits.

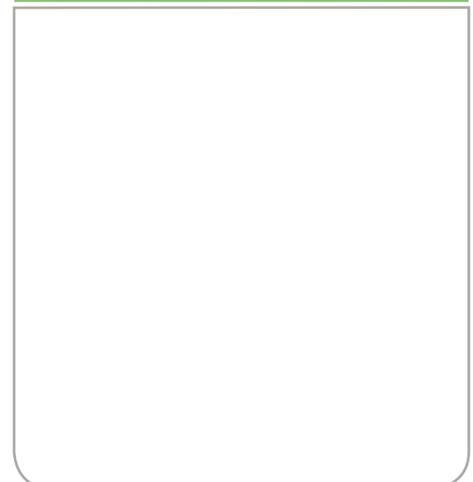
a) The chief payload — the 436 kg Emisat — will be injected into a 749 km orbit.

b) After that, the fourth stage of the rocket will be manoeuvred to a 504 km orbit for releasing 28 international satellites.

c) Once that job is over, the fourth stage will be restarted and guided to an altitude of 485 km.

d) For the next six months, this stage will serve as an orbital platform for

### Note



space-based experiments. This is another first for the ISRO. Normally, the spent stage simply becomes space junk.

e)The orbital platform will also **sport solar panels, which too is a first.**

f)But that's not all: the launch vehicle itself is a new variant, designated **PSLV-QL.**

**g)For the first time, ISRO will be employing four XL strap-on motors on the first stage.**

h)Again, the PSLV-C45 mission marks a milestone for ISRO's Indian Institute of Space Science and Technology (IIST). One of the three experiments aboard the orbital platform is the IIST's **Advanced Retarding Potential Analyser for Ionospheric Studies (ARIS).**

i)This is the first time that an IIST payload is flying aboard an ISRO mission. ARIS will study the structure and composition of the ionosphere.

j)The other two experimental payloads aboard the orbital platform are the Automatic Identification System (AIS), an ISRO payload for maritime satellite applications, and the Automatic Packet Repeating System (APRS), meant to assist amateur radio operators.

About Emisat:

The chief payload on PSLV-C45, is meant for electromagnetic spectrum measurements, according to the ISRO.

It will be released into an orbit at 749 km, the ISRO said. C-45, which is set for lift-off from the second launchpad at Sriharikota, will mark the 47th flight of the PSLV.

### Foreign co-passengers

- 1.As many as 28 small foreign co-passenger satellites will also travel to space with it, but to a lower orbit at 504 km.
- 2.They include 24 small satellites from the U.S., among them 20 which are part of previous customer Planet Labs' earth observation constellation.
- 3.The other four customers are from Lithuania, Spain and Switzerland.

### Purposes expected out of it:

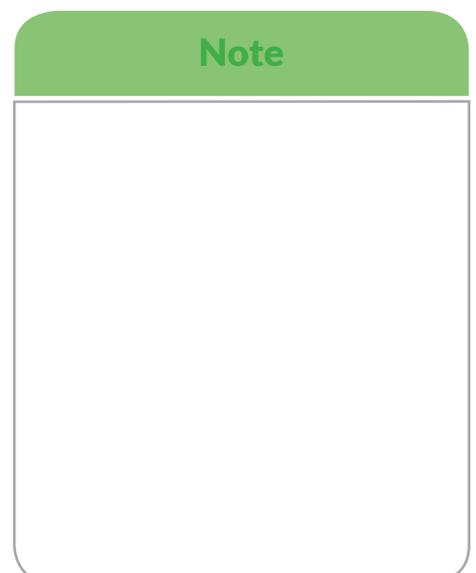
- 1.Knowledgeable sources said the 436-kg satellite would serve as the country's roving device for detecting and gathering electronic intelligence from enemy radars across the borders as it circles the globe roughly pole to pole every 90 minutes or so.
- 2.Other highly placed officials confirmed that its payload comes from one or more laboratories of the Defence Research & Development Organisation.
- 3.For the third successive PSLV mission, the ISRO plans to reuse the rocket's spent fourth stage or PS4 to host short experiments.

### For Further Reference:

<https://www.thehindu.com/todays-paper/tp-national/tp-andhrapradesh/pslv-c45-mission-to-mark-several-firsts-for-isro/article26639148.ece>

### Chinook will be a game changer, says Air Force chief

### Why in News:



- IAF inducts 4 combat-ready Chinook helicopters
  - In Brief:
    - The Indian Air Force (IAF) inducted the first batch of four Chinook CH-47F(I) heavy-lift helicopters, which will significantly improve airlift to high-altitude areas.
1. It will Enhance our Heli lift capability across all types of terrain to the full effect.
  2. It will be a game changer as expected by IAF.
  3. The service ceiling of 20,000 feet would redefine heavy lift not just in operations, inter-valley transport and artillery transport but also in humanitarian assistance and disaster relief efforts in far-flung areas, he said.
  4. These helicopters will be deployed in the northern and eastern regions.
  5. Besides Chandigarh, another unit will be created at Dinjan in Assam.
  6. India finalised a contract for 15 Boeing Chinook helicopters in September 2015. The first batch arrived at the Mundra Port in Gujarat in February this year. All helicopters will be delivered by March next year.
  7. The first batch of 12 pilots and as many flight engineers underwent training in the U.S. in October 2018.
  8. The Chinook can carry a maximum payload of 11 tonnes and 54 combat-ready troops or 24 stretcher patients.
  9. The Army's recently inducted M-777 Ultra-Light Howitzers can be carried underslung to forward areas. This will significantly improve the rapid reaction capabilities along the western and eastern borders.

**For Further Reference:**

<https://www.thehindu.com/news/national/iaf-inducts-4-combat-ready-chinook-helicopters/article26632144.ece>

Note

