

# 15 Jul 2023: UPSC Exam Comprehensive News Analysis



<b>TABLE OF CONTENTS</b>
<b>A. GS 1 Related</b>
<b>B. GS 2 Related</b>
<b>C. GS 3 Related SCIENCE AND TECHNOLOGY</b>
<b>D. GS 4 Related</b>
<b>E. Editorials INTERNATIONAL RELATIONS</b>
<b>1. EU Parliament resolution misdiagnoses the Manipur issue</b>
<b>2. Virtual summit, virtual silence</b>
<b>F. Prelims Facts</b>
<b>1. Nawab Wajid Ali Shah</b>
<b>2. Chashma-V nuclear plant</b>
<b>G. Tidbits</b>
<b>H. UPSC Prelims Practice Questions</b>
<b>I. UPSC Mains Practice Questions</b>

## A. GS 1 Related

*Nothing here for today!!!*

## B. GS 2 Related

*Nothing here for today!!!*

## C. GS 3 Related

### Category: SCIENCE AND TECHNOLOGY

#### 1. India's third lunar odyssey commences with perfect launch

*Syllabus: Achievements of Indians in science & technology; indigenization of technology and developing new technology.*

*Mains: Chandrayaan-3 and its significance*

**Context:** The Chandrayaan 3 project from India was launched with the goal of landing a spacecraft on the lunar surface.

#### About Chandrayaan-3

- The Satish Dhawan Space Centre in Sriharikota successfully launched Chandrayaan-3 using a [Launch Vehicle Mark-3 \(LVM-3\)](#) rocket.
- In order to demonstrate end-to-end capability in safe landing and wandering on the lunar surface, it is a follow-up mission to Chandrayaan-2.
- After [Chandrayaan-2](#)'s failed attempt in 2019, this is India's second attempt to soft-land robotic instruments on the lunar surface.
- Only the United States, Russia, and China have accomplished soft landings on the moon so far.

# Chandrayaan-3

Chandrayaan-3 consists of a lander module (LM), a propulsion module (PM) and a rover. It was launched by the LVM3-M4 on July 14. The integrated module (comprising LM, PM and rover) was placed in an elliptical parking orbit (EPO) of size ~170 x 36500 km

**LAUNCH VEHICLE**  
**LMV3-M4**  
Height: 43.5 m  
Lift-off mass: 642 t

**PROPULSION MODULE (PM)**  
Mass: 2,145 kg  
Power: 738 W, summer solstice and with bias  
Payload: 1

**LANDER**  
Mission life: 1 lunar day (14 earth days)  
Mass: 1,749.86 kg including rover  
Power: 738 W (winter solstice)  
Payloads: 4

**ROVER**  
Mission life: 1 lunar day.  
Mass: 26 kg  
Power: 50 W  
Payloads: 2

**INTEGRATED MODULE PHASE**

Chandrayaan-3 will follow the same trajectory as its predecessor. The Propulsion Module will orbit the Earth several times before slingshotting towards the Moon. Once within the Moon's gravitational pull, the module will lower itself to a 100 x 100 km circular orbit. Subsequently, the Lander will detach and descend to the surface

**Distance between earth and moon**  
3,84,400 km

**When the lander will land on the moon**  
The landing is scheduled for August 23-24

**Where will the lander land?**  
It is likely to land near the moon's south pole and operate for one lunar day, equivalent to 14 earth days

S200 Separation

L110 Ignition

S200 Ignition

SOURCE: ISRO

TEXT: HEMANTH C.S., GRAPHIC: SEBASTIAN FRANCIS

Source: The Hindu

### Main objectives of Chandrayaan-3

- The Spectro-Polarimetry of Habitable Planet Earth (SHAPE) payload on [Chandrayaan-3](#) will analyse Earth's light to investigate its spectral and polarimetric characteristics.
- The moon's composition and geology will be studied by the rover, which will provide scientists with more information about the moon's past and present.

## Key differences between Chandrayaan-2 and Chandrayaan-3

- Chandrayaan-3 will launch with merely a lander and a rover as opposed to Chandrayaan-2's combination of the Vikram lander, Pragyan rover, and an orbiter.
- Legs on the Vikram lander will be more durable than those on the previous model. From 3 m/s to 2 m/s, the landing velocity has been increased.
- Vikram has also undergone the installation of more fuel, which will increase its ability to travel or handle dispersion. Additionally, a new sensor has been included.
- While Chandrayaan-3's propulsion module will only have one sensor, the Spectro-polarimetry of Habitable Planetary Earth (SHAPE), the Chandrayaan-2 Orbiter was launched with an amazing array of nine in-situ instruments.
- The Laser Retroreflector Array (LRA), a passive experiment to comprehend the dynamics of the Moon system, is being sent with the lander as an adjunct to the Chandrayaan-3 mission.

## Components

The Chandrayaan-3 mission's three main components are a lander module, a rover, and an indigenous propulsion module. Its goal is to research and demonstrate new technologies needed for interplanetary missions. Six payloads are being carried by Chandrayaan-3 in order to examine the lunar surface and take pictures of Earth from lunar orbit.

- **Fat Boy: LVM3 rocket:** The biggest and heaviest LVM3 rocket, affectionately known as "fat boy" by [ISRO](#) scientists for its heavy lifting capacity, has successfully completed six flights in a row. Chandrayaan-3 will be sent into a Geo Transfer Orbit by LVM3.
- **Propulsion module:** The Chandrayaan-3 mission is significant because the Propulsion Module carries a payload called SHAPE, or Spectro-Polarimetry of Habitable Planet Earth, which will allow researchers to examine Earth from lunar orbit. The primary function of the propulsion module is to convey the lander and rover into lunar orbit.
- **SHAPE payload:** The SHAPE is an experimental payload designed to investigate the near-infrared spectro-polarimetric fingerprints of the Earth.
- **Lander Module:** After landing on the moon's surface, the lander module will carry payloads such as RAMBHA-LP, which will detect the density of plasma ions and electrons near the surface and its variations.
- **ChaSTE:** Chandra's Surface Thermo Physical Experiment is designed to assess the lunar surface's thermal characteristics close to the poles, while ILSA (Instrument for Lunar Seismic Activity) is used to gauge seismic activity around the landing site and map the composition of the lunar crust and mantle.
- **Rover:** The Rover would emerge from the lander module after the gentle landing to examine the moon's surface with its payload.
- **APXS:** To deepen our understanding of the lunar surface, the Alpha Particle X-Ray Spectrometer will be used to determine the chemical composition and infer the mineralogical composition.



- **Safe and Soft Lunar Landing:** Chandrayaan-3's main goal is to demonstrate a soft and safe lunar surface landing. This project intends to demonstrate India's technical prowess in making a precise lunar landing.

### Significant Features of Chandrayaan-3

- **Exploration of the Lunar South Pole:** The first mission to set foot on the lunar South Pole will be Chandrayaan-3. Due to its constantly shaded parts, where the presence of water ice is anticipated, this location is of particular interest. The mission's goal is to learn more about this area's distinctive geology and composition.
- **Technological Advancements:** Chandrayaan-3 is intended to create and showcase fresh technology needed for extraterrestrial missions. It will help develop the design of spacecraft, the landing systems, and the mobility of celestial bodies.
- **Global Scientific Collaboration:** The information and results obtained by Chandrayaan-3 during its exploration of the lunar South Pole will be highly valuable and relevant to the entire world's scientific community. The findings will be analysed and studied by researchers from all over the world to learn more about the geological history and processes on the Moon.
- **Advancements in Spacefaring Ambitions:** India's technical prowess and its grandiose goal of space exploration would be showcased by the successful landing on the lunar South Pole. Chandrayaan-3 aids in the overarching objectives of increasing human presence outside of Earth and preparing the way for upcoming space missions.

### Conclusion

ISRO is breaking new ground by roving on the lunar surface and soft-landing on the moon's surface using its lunar module. Future interplanetary missions are anticipated to benefit from the mission.

***Nut Graf:** India will gain access to a lot of facts about the lunar surface through the Chandrayaan-3 mission, as well as information about its potential for future human habitation.*

## D. GS 4 Related

*Nothing here for today!!!*

## E. Editorials

### Category: INTERNATIONAL RELATIONS

#### 1. EU Parliament resolution misdiagnoses the Manipur issue

***Syllabus:** Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.*

***Mains:** EU Parliament resolution and its critical analysis*

## Context:

India has condemned a European Parliament resolution on the ethnic clashes in Manipur state, calling it an "interference" in its internal affairs.

## Background

- Conflicts between the Kuki tribe and the dominant Meitei tribe in Manipur have alarmed members of the [EU](#) Parliament.
- The EU Parliament also demanded that internet blackouts be lifted and an impartial probe be conducted.
- India objected to the proposed discussion on Manipur in the EU Parliament, claiming it was solely a domestic concern.
- A resolution urging the Indian government to "promptly halt the ethnic and religious violence and to protect all religious minorities" was adopted by the EU Parliament.

## Critical Analysis of Eu Resolution

- The EU Parliament's members are perfectly within the bounds of propriety in raising concerns about events in Manipur, just as Indian politicians have the right to voice their worries about issues like attacks on Hindu temples in Australia, racial prejudice in the United States, or anti-immigrant violence and government responses in Europe.
- An incorrect understanding of the dispute is present in both the resolution of the EU Parliament and the parliamentarians' formulation of the Manipur issue.
- This ignores the fact that an incorrect order to include Meiteis in the State's Scheduled Tribes list was made by a single judge bench of the Manipur High Court, which served as the catalyst for the increase in violence.
- The Kuki-Zo and Meitei communities' militants have been the only ones to engage in ethnic violence, which has been exacerbated by an ethnic polarization that civil society efforts to end have not yet been able to reverse. The Naga community and its representatives were also offended by the decision.

## Conclusion

The EU resolution interprets this scenario incorrectly as being motivated by religious strife. At a time when reconciliation and responsibility are needed to break the stalemate that has endured for the past two months, a misdiagnosis like that would cause the emergence of new divides.

***Nut Graf:** India rejected the EU Parliament's response to the violence in Manipur, claiming it was colonial in outlook and amounted to meddling in domestic matters.*

## 2. Virtual summit, virtual silence

**Syllabus:** *Bilateral, regional and global groupings and agreements involving India and/or affecting India's interests.*

**Mains:** *SCO Virtual Summit and its issues*

### Context:

Recently, the Prime Minister of India hosted a virtual summit of the Shanghai Cooperation Organisation (SCO).

### Background

- India's foreign minister argued that the [Shanghai Cooperation Organisation \(SCO\)](#) summit was an actuality.
- India focused on the political, economic, and cultural activities it had undertaken and the gatherings it had hosted while holding the SCO presidency to stress its dedication to the organisation.
- India has put so much work into the SCO that the summit should have taken place in person or through a hybrid format. That would have given it more significance.

### China Factor

- India's interests in the SCO have definitely had to be reevaluated in light of China's moves towards India in 2020 and the changing nature of the international order.
- SCO should not be afraid to criticise these countries. There shouldn't be any discrimination in such grave situations.
- While neither China nor Pakistan will reverse direction on the problem of terrorism, the Central Asian Republics continue to have serious worries about terrorist organisations using Afghanistan.
- However, India is clearly isolated inside the SCO on connectivity, a key concern for the body. India targeted China's flagship [China-Pakistan Economic Corridor \(CPEC\)](#), which infringes on Indian sovereignty, as part of its Belt and Road Initiative (BRI).

### BRI and the Eurasian game

- The negative effects of the [BRI](#) haven't dampened SCO members' excitement for it.
- India must therefore be aware of the threat that China, with Pakistan's active cooperation, will integrate Eurasia and exclude it from the continent.
- India must find a means to keep its tight ties to Eurasia while supporting the BRI, a tool of Chinese expansionism.
- Certainly, no matter how admirable the effort is, promoting Buddhist heritage won't help the SCO members turn towards India or stop their expanding ties to China.

- Iran's [Chabahar project](#) has not advanced as quickly as it could. Developing connectivity through Iran requires India to invest significantly more time and money, even if it is a difficult situation to manage.

### Silence on the Ukraine War

- China, Pakistan, and India all avoided mentioning it in their summit statements.
- The Russian President criticised the West and brought up Ukraine.
- The fact that Putin thanked the SCO nations for "supporting the Russian leadership in defending constitutional order" following the "armed rebellion" is equally notable.

***Nut Graf:** The Indian Prime Minister still had hope of working out a compromise with Chinese President Xi Jinping on the divisive issues dividing the two countries. As a result, he eagerly approved India's full membership, notwithstanding the SCO's historical roots and China's influence over it.*

## F. Prelims Facts

### 1. Nawab Wajid Ali Shah

***Syllabus:** GS 1- Art and Culture*

***Prelims:** Indian culture will cover the salient aspects of Art Forms, literature and Architecture from ancient to modern times.*

- Nawab Wajid Ali Shah, the last ruler of Awadh, spent his final years on the outskirts of what was British India's capital.
- Wajid Ali Shah wrote under the pen name "Qaisar," but he also wrote under the name "Akhtarpiya" for his numerous compositions.
- Kathak expanded its scope under Nawab Wajid Ali Shah's artistic direction and support. Two separate versions were started by Wajid Ali Shah, one of which is named Raas and the other Raas.
- His grant-funded project, Huzn, was an investigation of the lives of those close to the Nawab and those who immigrated to Calcutta at the same time.

### 2. Chashma-V nuclear plant

***Syllabus:** GS 2- International Relations*

***Prelims:** Effect of policies and politics of developed and developing countries on India's interests*

- Recently, the Prime Minister of Pakistan laid the foundation stone of the Chashma-V Nuclear Power Plant in Islamabad.
- This move aimed to strengthen economic cooperation between Pakistan and China.



- Chashma-V, the power plant, is being built in accordance with a USD 3.5 billion contract made with China.

## G. Tidbits

*Nothing here for today!!!*

## H. UPSC Prelims Practice Questions

**Q1. Match the following nuclear power plants in India with their respective locations:**

<b>Nuclear Power Plant</b>	<b>Location</b>
1. Tarapur Atomic Power Station	A. Tamil Nadu
2. Kakrapar Atomic Power Station	B. Maharashtra
3. Kudankulam Nuclear Power Plant	C. Gujarat
4. Narora Atomic Power Station	D. Uttar Pradesh

**Select the correct match from the options below:**

- A. 1-A, 2-B, 3-C, 4-D
- B. 1-B, 2-C, 3-A, 4-D
- C. 1-B, 2-A, 3-D, 4-C
- D. 1-C, 2-B, 3-A, 4-D

**Answer: B**

**Explanation:** Tarapur Atomic Power Station - **Maharashtra**. Kakrapar Atomic Power Station - **Gujarat**. Kudankulam Nuclear Power Plant - **Tamil Nadu**. Narora Atomic Power Station - **Uttar Pradesh**.

**Q2. Consider the following statements regarding Manipur:**

- 1. It is home to only two kinds of forests, Tropical Semi-evergreen and Tropical Moist Deciduous.
- 2. Loktak Lake, the largest freshwater lake in Northeast India, is located in Manipur.
- 3. It is home to the endangered species of Sangai.

**How many of the statements given above are incorrect?**

- A. Only one
- B. Only two
- C. All three
- D. None

**Answer: A**

**Explanation:** Statement 1 is incorrect. Manipur is home to four kinds of forests: Tropical Semi-evergreen, Dry Temperate Forest, Subtropical Pine, and Tropical Moist Deciduous.

**Q3. Who was the last Nawab of Awadh before it was annexed by the British East India Company?**

- A. Nawab Wajid Ali Shah
- B. Nawab Saadat Ali Khan II
- C. Nawab Shuja-ud-Daulah
- D. Nawab Asaf-ud-Daula

**Answer: A**

**Explanation:** Nawab Wajid Ali Shah was the last Nawab of Awadh who ruled from 1847 to 1856. After the annexation of Awadh by the British East India Company in 1856, he was exiled to Calcutta (now Kolkata).

**Q4. Consider the following statements regarding ISRO's Gaganyaan project:**

- 1. It is India's first human spaceflight mission.
- 2. The mission aims to send a two-member crew into low Earth orbit.
- 3. The Gaganyaan spacecraft will be launched using ISRO's PSLV rocket.

**How many of the statements given above are *incorrect*?**

- A. Only one
- B. Only two
- C. All three
- D. None

**Answer: B**

**Explanation:** Statements 2 and 3 are incorrect. The mission aims to send a three-member crew into low Earth orbit, not two-member. It will be launched using ISRO's LVM3 rocket.

**Q5. Match the following mountain passes with their respective locations:**

Passes	Locations
1. Nathula Pass	a) Himachal Pradesh
2. Dihang Pass.	b) Jammu and Kashmir
3. Zoji La Pass	c) Sikkim

4. Shipki La Pass      d) Arunachal Pradesh

Select the correct match from the options below:

- A. 1-c, 2-d, 3-b, 4-a
- B. 1-b, 2-a, 3-c, 4-d
- C. 1-c, 2-a, 3-b, 4-d
- D. 1-b, 2-d, 3-c, 4-a

**Answer: A**

**Explanation:** Nathula Pass is located in Sikkim. Dihang Pass is located in Arunachal Pradesh. Zoji La Pass is located in Jammu and Kashmir. Shipki La Pass is located in Himachal Pradesh.

## I. UPSC Mains Practice Questions

1. [Examine the features of the Chandrayaan-3 mission and its significance to the future of India's space programme.](#) (250 words, 15 marks) (GS-3; Science and Technology)
2. [India and France share a historical relationship that today drives the close strategic relations between the two. Comment.](#) (250 words, 15 marks) (GS-2; International Relations)