



**VSPM Academy of Higher Education
ARVINDBABU DESHMUKH MAHAVIDYALAYA,
BHARSINGI**

Tah-Narkhed, Dist-Nagpur

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इसरो इंद्र

23 August

NATIONAL SPACE DAY

Organize by Dept Of Physics:-

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What is National Space Day?

- National Space Day is observed in India on 23 August every year.
- The day commemorates the successful soft landing of Chandrayaan-3 on the Moon on 23 August 2023.
- It celebrates India's achievements in space science, engineering and applications.
- It aims to inspire students and young people to develop scientific temper, curiosity and innovation.
- For students, it is a reminder that careers in space begin with strong foundations in Physics, Mathematics, Chemistry, Computer Science and Engineering.



Historical Background: India's Space Journey

- 1962 – Indian National Committee for Space Research (INCOSPAR) was formed.
- 1969 – Indian Space Research Organisation (ISRO) was established.
- 1975 – Aryabhata, India's first satellite, was launched.
- 1980 – Rohini satellite was placed in orbit by India's SLV-3.
- 2008 – Chandrayaan-1 became India's first lunar mission and made important observations related to lunar water.
- 2013–14 – Mars Orbiter Mission (Mangalyaan) demonstrated India's deep-space capability.
- 2023 – Chandrayaan-3 achieved a historic soft landing near the lunar south polar region.



Why is National Space Day Important?

SCIENCE

Encourages curiosity, research and scientific thinking.

TECHNOLOGY

Highlights advances in rockets, satellites, sensors and electronics.

SOCIETY

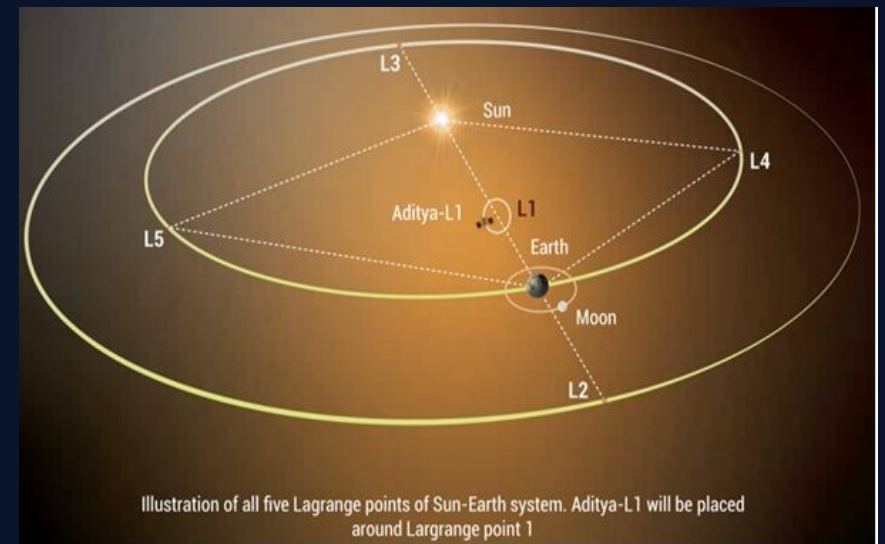
Space applications support communication, weather, navigation, agriculture and disaster management.

YOUTH

Motivates students to pursue STEM education, research and innovation.

Major Achievements of ISRO Scientists

- Launch vehicles: PSLV and LVM3 have enabled reliable access to Earth orbit and major science missions.
- Chandrayaan programme: lunar exploration from orbiting observations to soft landing and surface science.
- Mars Orbiter Mission: demonstrated interplanetary mission planning and operations.
- Aditya-L1: India's solar observatory for studying the Sun and space weather.
- AstroSat and XPoSat: space-based astronomy and X-ray/polarization studies.
- Satellite applications: remote sensing, communications, navigation, meteorology and disaster management.



Chandrayaan-3: The Historic Achievement

Launched: 14 July 2023 by LVM3-M4.

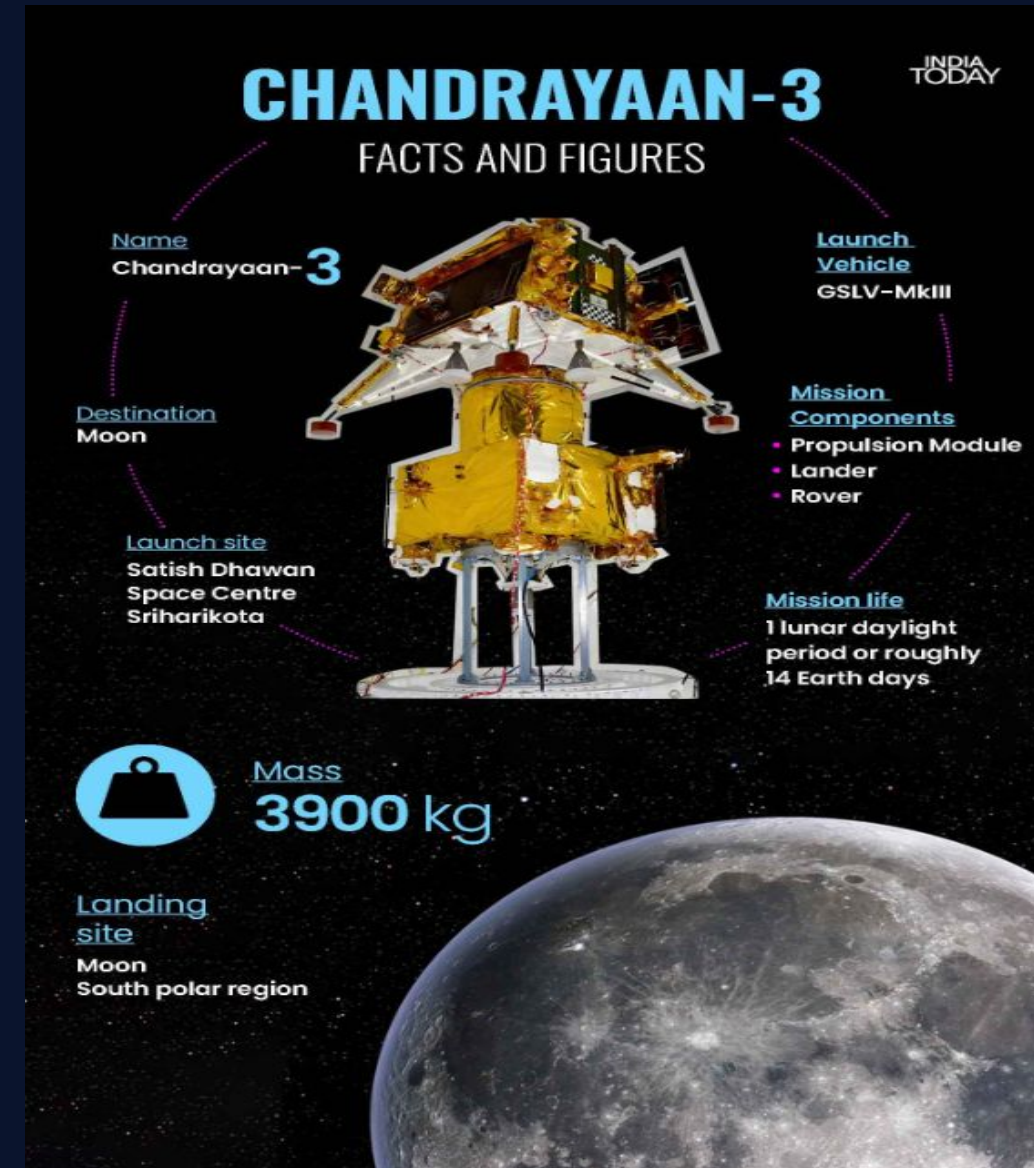
Soft landing: 23 August 2023, making India the fourth country to achieve a soft lunar landing.

The landing occurred in the Moon's southern high-latitude region.

Vikram lander and Pragyan rover carried out in-situ measurements and experiments.

The mission demonstrated soft landing, rover mobility and scientific measurements on the lunar surface.

Its success became the reason India observes National Space Day on 23 August.



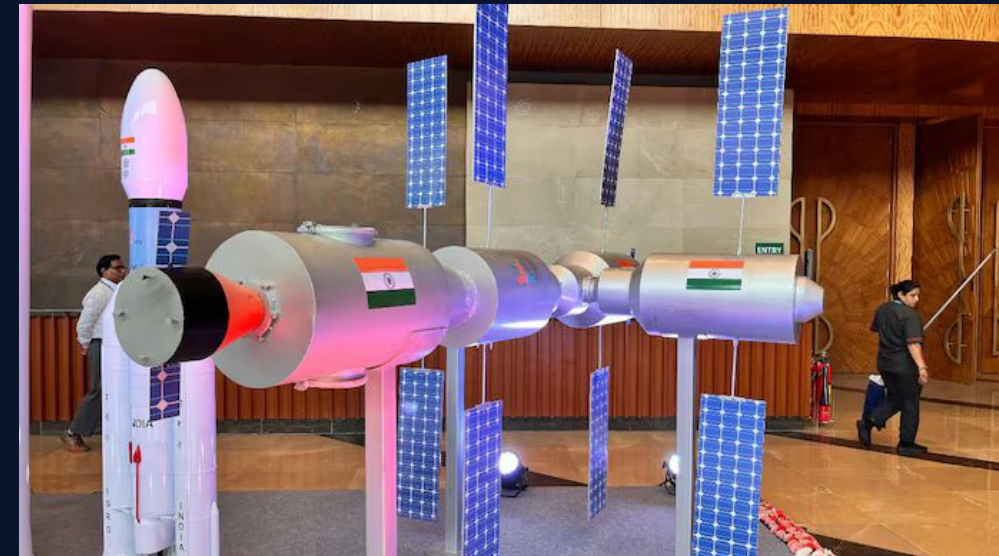
Future Projects: India's Space Vision 2047

- Gaganyaan – human spaceflight programme to demonstrate indigenous crewed spaceflight capability.
- Bharatiya Antariksh Station (BAS) – first module targeted by 2028; full station envisioned by 2035.
- Chandrayaan-4 – planned lunar sample-return mission, targeted for 2027.
- Venus Orbiter Mission – planned for 2028 to study Venus's atmosphere, surface and interaction with the Sun.
- Next Generation Launch Vehicle (NGLV) – development aimed at next-generation, more capable and cost-effective launch capability.
- Long-term vision: an Indian crewed lunar landing by 2040.



Gaganyaan & Bharatiya Antariksh Station

- Gaganyaan aims to demonstrate human spaceflight to Low Earth Orbit.
- The programme requires human-rated launch vehicles, crew escape systems, life-support systems, orbital modules and extensive astronaut training.
- Bharatiya Antariksh Station will provide a platform for multidisciplinary microgravity research.
- Research possibilities include life sciences, medicine, agriculture, materials, space manufacturing and fundamental science.
- These programmes create opportunities for collaboration among ISRO, universities, research institutes and Indian industry.



Career & Job Opportunities in the Space Sector

- Core science & engineering: Physics, Mathematics, Electronics, Mechanical, Aerospace, Computer Science and Materials Science.
- Space technology: propulsion, structures, avionics, communication, control systems, robotics and instrumentation.
- Data & computing: satellite data analysis, AI/ML, GIS, remote sensing, image processing and scientific computing.
- Research careers: universities, national laboratories, observatories and space-science research groups.
- Industry opportunities: satellite systems, launch systems, space electronics, geospatial services and emerging private space companies.
- Skills to develop now: strong fundamentals + programming + problem solving + communication + project work.

How Can B.Sc. Students Prepare?

- Build strong concepts in Physics, Mathematics and related subjects.
- Learn Python and basic scientific/data-analysis tools.
- Work on small projects: sensors, astronomy observations, electronics, coding or data analysis.
- Participate in science exhibitions, quizzes, internships, workshops and research projects.
- Follow ISRO/Department of Space programmes and student initiatives such as YUVIKA.
- Consider higher studies such as M.Sc., M.Tech., integrated Ph.D. or Ph.D. for advanced research careers.
- Remember: space science is interdisciplinary—there is a place for many different scientific and technical skills.

Conclusion: From Inspiration to Innovation

“We should have some luck initially, but we should also be mentally prepared to accept and make use of opportunities that come our way.”

<https://www.youtube.com/watch?v=KBVk78QO84g>

Thank You

Sources: ISRO official website; ISRO Annual Report 2025–26; Department of Space / Government of India.



S. Somanath, the former chairman of the Indian Space Research Organisation (ISRO), once stated about team dedication



*Thank You
Indian Science Congress Nagpur
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