

CHANDRAYAAN-3



GOVERNMENT DEGREE COLLEGE (MEN)

ACCREDITED BY NAAC WITH B++ (CGPA 2.90)

Srikakulam - 532001, Andhra Pradesh, India

ph: 08842 222863 e-mail: info@gdcmen.sri.ac.in website: https://www.gdcmen.sri.ac.in



Department of Physics

Minutes of the meeting

The members of the department of Physics met today in the Principal's chamber under the chairpersonship of Dr.P.Surekha ,principal,GDC(M),Srikakulam and discussed the following agenda.

Agenda:

1. Plan a Essay writing ,Content explanation, paper writing and success meet on the occasion of Chandrayaan 3

After a brief discussion on the agenda the following resolutions have been passed by the committee.

To seek permission from the Principal to

1. Conduct Essay writing competition on 21.08.2023 at department of physics

Topic : Lunar missions and the Significance of Chandrayaan 3

2. Content Explanation of objectives, Lander ,rover, scientific goals, international collaborations, timeline etc on 22.08.2023 at department of Physics.
3. Arrangements of Live telecast of soft landing of Vikram Lander on Lunar surface on 23.08.2023
4. Conduct success meet of chandrayaan 3 on 24.08.2023
5. To prepare a circular and circulate it among all the classes.

Signatures:-

1 
2  (Dr. A. V. S. J. Su)
3  (R. Ravi Kumar)

4 


In - Charge
Department Of Physics
Government Degree College (MEN)
- SRIKAKULAM



GOVERNMENT DEGREE COLLEGE (MEN)

ACCREDITED BY NAAC WITH B++ (CGPA 2.98)

Srikakulam - 532001, Andhra Pradesh, India

Ph: 08842-222001, Email: chdsgovernmentcollege@gmail.com, Website: <http://www.governmentcollege.ac.in>



O/o The Principal,

Government Degree College (M),

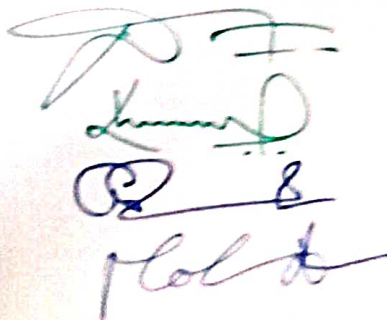
Srikakulam.

Circular

This is to inform all the students & staff that the department of Physics are organising a

1. Conduct Essay writing competition on 21.08.2023 at department of physics
Topic : Lunar missions and the Significance of Chandrayaan 3
2. Content Explanation of like objectives, Lander, rover, scientific goals, international collaborations, timeline etc on 22.08.2023 at the department of Physics.
3. Arrangements of Live telecast of soft landing of Vikram Lander on Lunar surface on 23.08.2023
4. Conduct success meet of chandrayaan 3 on 24.08.2023

So, Interested students will give their names in Physics department on or before 20.08.2023 and make the event successful.



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Event Summary

1. Essay Writing Competition - August 21, 2023

The Department of Physics organised an essay writing competition on August 21, 2023, centred around the theme "Lunar Missions and the Significance of Chandrayaan 3." The event was aimed at promoting scientific awareness and encouraging students to delve into the realm of lunar exploration.

Objective: The primary objective of the essay competition was to foster interest and understanding among students regarding lunar missions and the importance of Chandrayaan 3 in the context of space exploration.

Participants: Students from various academic backgrounds participated in the competition.

Winners: The essays were evaluated by a panel of judges, and winners were announced in the following categories:

First Prize: G. Lekhama, II BSc MPCs

Second Prize: S. Pavam Kumar, III BSc MPCs

2. Content Explanation Session - August 22, 2023

A content explanation session was conducted on August 22, 2023, at the Department of Physics. The session aimed to provide detailed insights into the Chandrayaan 3 mission.

Topics Covered:

- **Objectives:** The session began by elucidating the mission's primary goals, emphasising the need for a successful lunar landing.
- **Lander and Rover:** Detailed explanations were given regarding the design, capabilities, and functions of the lander and rover components.
- **Scientific Goals:** Attendees were briefed on the scientific objectives, which included lunar surface exploration, sample collection, and data acquisition for geological studies.
- **International Collaborations:** The session highlighted potential collaborations with international space agencies, showcasing the benefits of global cooperation in space exploration.
- **Timeline:** The timeline for Chandrayaan 3 was discussed, outlining key milestones from mission planning to launch preparations.

3. Live Telecast of Vikram Lander's Soft Landing - August 23, 2023

To witness the historic moment of Vikram Lander's soft landing on the lunar surface, the Department of Physics arranged a live telecast on August 23, 2023. Students and faculty gathered to watch the broadcast, creating a sense of anticipation and excitement.

4. Success Meet of Chandrayaan 3 - August 24, 2023

On August 24, 2023, a success meet was convened to commemorate the successful launch and lunar landing of Chandrayaan 3. Dr.P.Surekha,Principal of the college was the chief guest for this program.

Principal's Message - Chandrayaan 3 Success Meet

During the success meet of Chandrayaan 3, the Principal of the college delivered an inspiring message to the audience. The Principal commended the achievements of the mission and its significance not only for the scientific community but also for the entire nation.

The Principal's message served as a source of motivation and inspiration for all those present, reinforcing the importance of scientific achievements like Chandrayaan 3 and their impact on the broader educational and national landscape.

The attendance for the Chandrayaan 3 program activities, including the essay writing competition, content explanation session, live telecast of Vikram Lander's soft landing, and the success meet, was encouraging and reflected strong participation from both faculty and students.

Faculty members from the Department of Physics, along with students from various academic disciplines, actively attended these events, showcasing their keen interest in space exploration and lunar missions. The diverse turnout enriched discussions and contributed to the success of each program.



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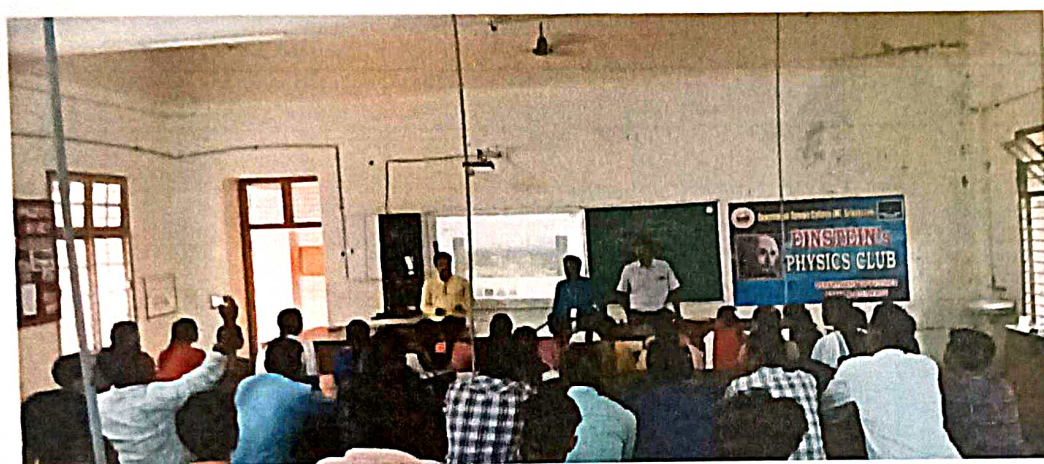


Event Photo Gallery

Essay Writing on 21.08.2023



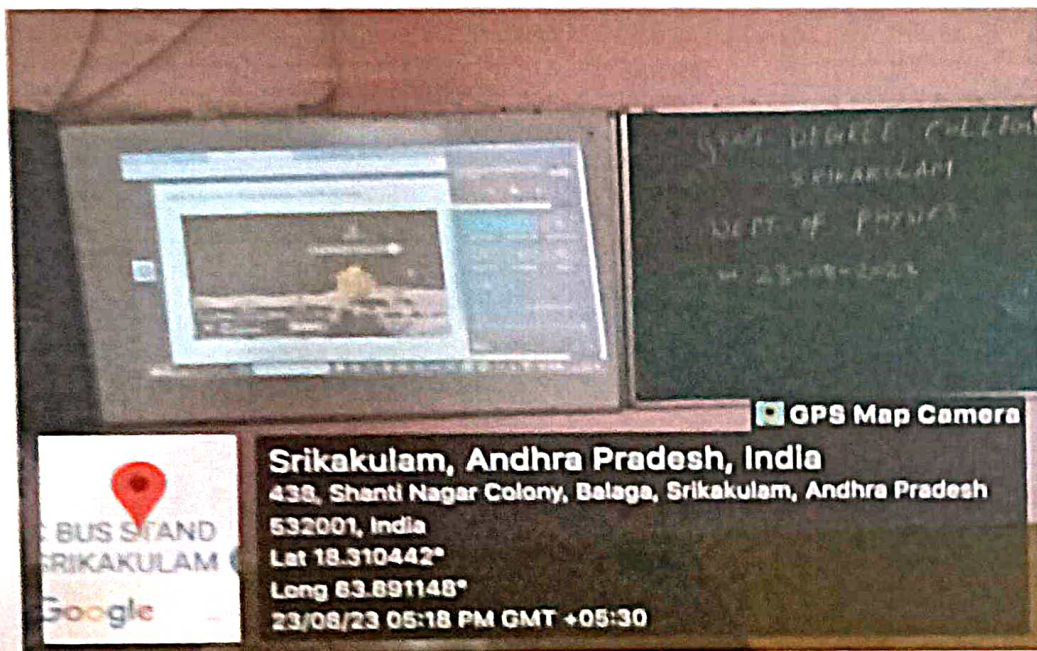
Content Explanation on 22.08.2023

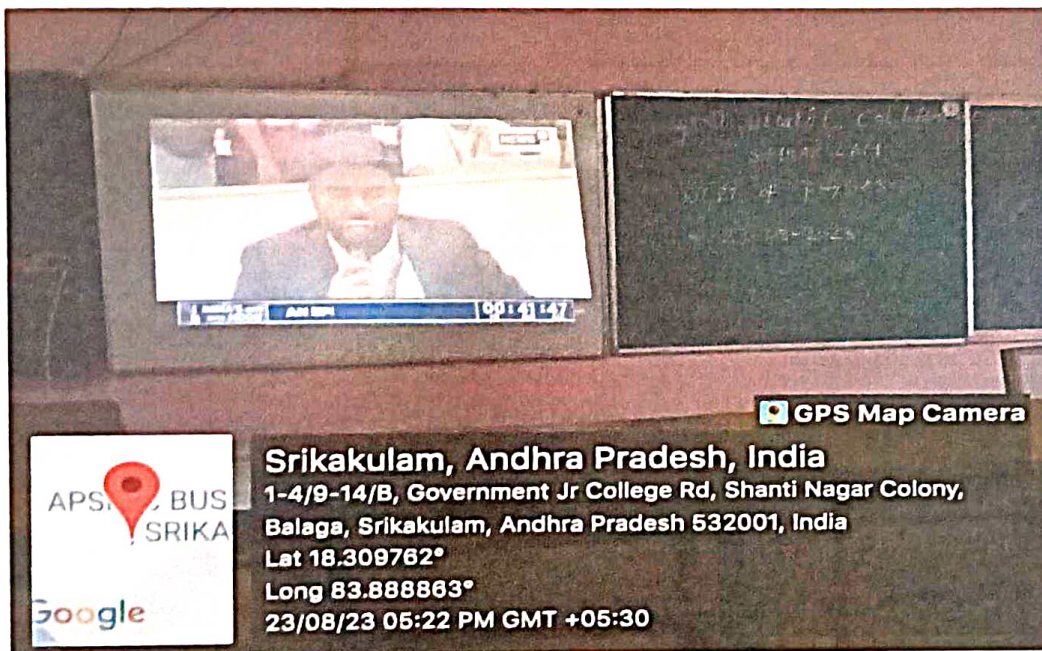
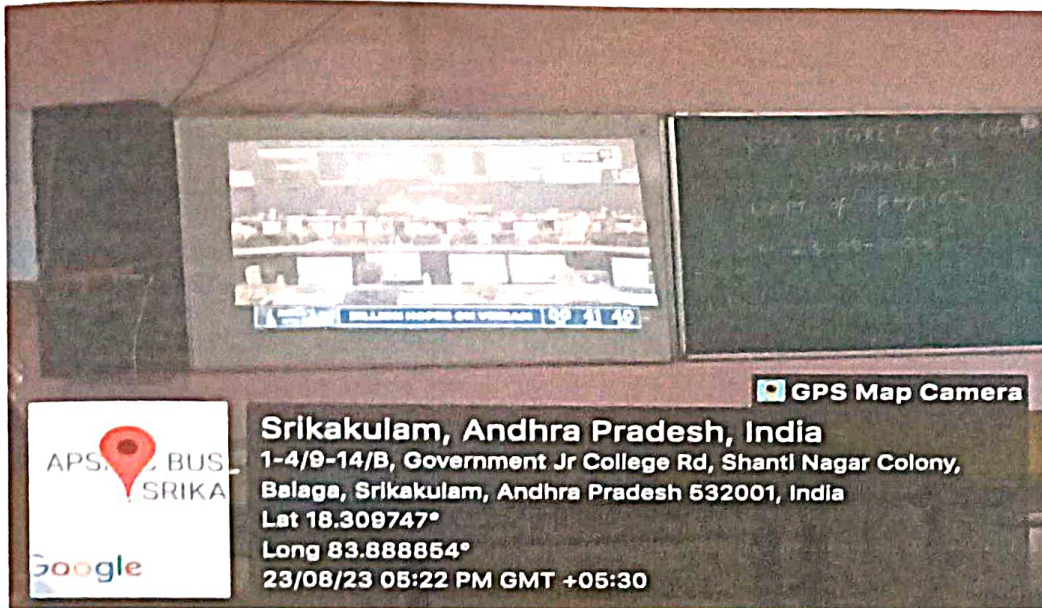



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Live Telecast on 23.08.2023:

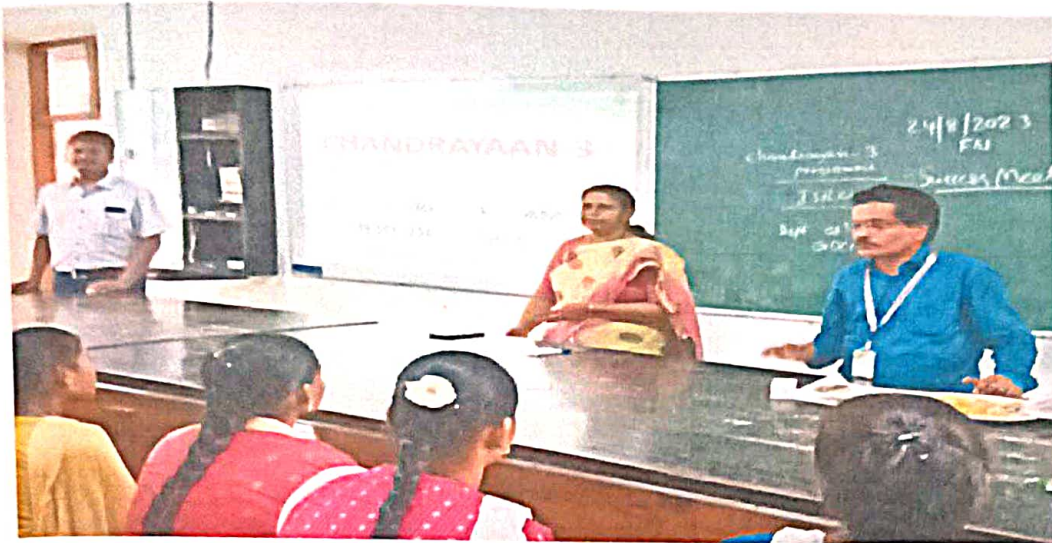






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Success Meet on 24.08.2023




In-Charge
Department Of Physics
Government Degree College (MEN)
SRIKAKULAM

CHANDRAYAAN - 3

S. Seemon
classmate
(B&C chemist)

INDIA'S THIRD LUNAR MISSION

INTRODUCTION:- India's first lunar exploration mission was called Chandrayaan. The ISRO launched it on October 22, 2008. Chandrayaan is Sanskrit for "Moon vehicle". Chandrayaan goal was to verify the existence of water ice on the moon. In August 2009, the Chandrayaan-1 mission was terminated because of the communication issue. On July 22, 2019, Chandrayaan-2 the second lunar exploration mission was launched. Which failed in its final stages. Then on July 14, 2023 at 2:35 PM 1st Chandrayaan-3 launched. It is launched by LVM3 from Sriharikota, ISRO SHAR. On this mission with the objective of enhancing the scientific knowledge about the moon's surface, composition and environment. and showing India's capacity in space exploration.

THE CHANDRAYAAN 3 - MISSION'S ARCHITECTURE

The Chandrayaan-3 Mission's architecture consists of a lander, a Rover and propulsion module. The lander and Rover are propelled by the propulsion module up until lunar orbit. The lander, which performs the soft landing, is equipped with tools for in-depth analysis, with cameras, spectrometers, and a drill. The rover will explore the lunar surface, travelling 500 metres over the course of one lunar day.

MISSION OBJECTIVES: The primary objectives of

Chandrayaan-3 are -

SOFT LANDING :- One of the main goals of the mission is to achieve a soft landing of the lunar lander on the moon's surface. Chandrayaan-2 faced challenges during its landing attempt, which led to partial success.

ROVER DEPLOYMENT :- Like Chandrayaan-2, Chandrayaan-3 is expected to carry a rover to explore the moon's surface in detail. The rover will be equipped with advanced scientific instruments to analyze the lunar soil and rocks, providing valuable data about the moon's geological composition.

SCIENTIFIC EXPERIMENT: Chandrayaan-3 will carry several scientific experiments to study the surface and geology of the moon. These experiments will help researchers gain insights into the moon's evolution, history and its potential resources, which may be important for future space missions and lunar colonization.

BENEFITS :- Chandrayaan-3 offers several benefits -

TECHNOLOGICAL ADVANCEMENT: Developing and executing missions like Chandrayaan-3 push the boundaries of India's space technology capabilities. Such missions lead to the creation of cutting-edge technologies that can be applied to various sectors including telecommunications, defense and

disaster management.

CAREER :- Chandrayaan-3 like its predecessors aims to inspire the youth of India and the world to pursue careers in science, Technology and Engineering.

GLOBAL RECOGNITION :- Successful missions enhance India's status in the International space community. They demonstrate ISRO's ability to execute sophisticated space missions and foster collaboration with other space agencies, thus strengthening India's global reputation in space exploration.

CONCLUSION :-

India's space exploration efforts, including Chandrayaan-3 demonstrate the country's commitment to peaceful and inclusive space activities. These missions not only aim to expand our scientific knowledge but also foster international cooperation and collaboration. They serve as a symbol of India's technological power and its vision to contribute to global scientific community. It represents the country's pursuit of scientific excellence, technological innovation. The mission holds immense potential to advance our understanding of the moon and pave the way for future lunar missions, further establishing India as a key player in space exploration.

name: B. Ravindra
group: BSc. Physics.

chandrayaan - 3

chandrayaan - 3 is on its journey to the moon.

chandrayaan-3 is a follow-on mission to chandrayaan-2 to demonstrate end-to-end capability in safe landing and roving on the lunar surface. It consists of Lander and Rover configuration. It will be launched by LVM3 from SDSC SHAR, Sriharikota. The propulsion module will carry the lander and rover configuration till 100 km lunar orbit. The propulsion module has spectro-polarimetry of Habitable planet earth (SHAPE) payload to study the spectral and polarimetric measurements of earth from the lunar orbit.

Lander payloads :-

chandra's surface thermophysical experiment (chaSTE) to measure the thermal conductivity and temperature ; Instrument for

SI
NO

Lunar Seismic Activity (LSA) for measuring the seismicity around the landing site; Langmuir probe (LP) to estimate the plasma density and its variations. A passive Laser Retro Reflector Array from NASA is accommodated for lunar laser ranging studies.

Bover payloads :-

Alpha particle x-ray spectrometer (APXS) and Laser Induced Breakdown Spectroscopy (LIBS) for deriving the elemental composition in the vicinity of landing site. The launcher identified for Chandrayaan is LVM3 M4 which will place the integrated module in an Elliptic parking orbit (EPO) of size $\sim 170 \times 36500$ km

Sl
NO

parameter

specifications

1. mission Life
(Lander & Rover)

one lunar day (~ 14
earth days)

2. Landing site
(prime)

4 km x 2.4 km

69.367621 S,

32.348126 E

3. Science payloads

Lander :

1. Radio Anatomy of moon
Bound hypersensitive
ionosphere and Atmosphere
(RAMBHA)

2. chandra's surface Thermo
Physical Experiment
(cha STE)

3. Instrument for Lunar
Seismic Activity (ILSA)

4. Laser

Retroreflector

Array (LRA) Rover :

5. alpha particle X-Ray
spectrometer (APXS)

4. Mass

6. Power generation

6. Laser Induced
Breakdown spectrosc
-ope (LIBS) propulsion
module:

7. Spectropolarimetry
of Habitable planet
Earth (SHAPE)

1. Propulsion module:

2148 kg

2. Lander module:

1752 kg including
Rover of 26 kg

3. Total : 3900 kg.

1. propulsion module:

758 w.

2. Lander module:

738 w, w.s with
Bias

3. Rover : 50 w

The Chandrayaan mission achieved a crucial milestone with the successful completion of the Lunar Orbit Insertion (LOI). The inserting was carried out by retro-burning at the perilune for 1835 seconds, starting at 19:12 Hrs IST. The maneuver resulted in an orbit of $164 \text{ km} \times 18074 \text{ km}$, as intended.

This is the third time in succession that ISRO has successfully inserted its spacecraft into the lunar orbit.

Chandrayaan-3 ~~th~~ was a soft landing in the south polar region of the moon on August 23, 2023.

INDIA'S THIRD LUNAR MISSION

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On July 14, 2023, at 2:35 pm

7th Chandrayaan-3 launched. It is launched

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THE CHANDRAYAAN 3 - MISSION'S ARCHITECTURE

The Chandrayaan-3 mission's architecture consists of a lander, a rover and a propulsion module. The lander and rover are propelled by the propulsion module up into lunar orbit. The lander which performs the soft landing is equipped with tools for in-depth analysis, with a laser spectrometer and a drill. The rover will explore the lunar surface, travelling 500 metres over the course of one lunar day.

MISSION OBJECTIVES:-

The primary objectives of Chandrayaan-3

SOFT LANDING:-

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ROVER DEPLOYMENT:-

Like Chandrayaan-2, Chandrayaan-3 is expected to carry a rover to explore the moon's surface in detail. The rover will be equipped with advanced scientific instruments to analyse the lunar soil and rocks.

providing valuable data about the moon's geological composition

SCIENTIFIC EXPERIMENT

Chandrayaan-3 will carry several scientific experiments to moon. These experiments will help researchers gain insights into the moon's evolution history and its potential resources which may be important for future space missions and lunar colonization.

BENEFITS: Chandrayaan-3 offers several benefits.

TECHNOLOGICAL ADVANCEMENT

Developing and executing missions like Chandrayaan-3 push the boundaries of India's space technology capabilities. Such missions lead to the creation of cutting-edge technologies that can be applied to various sectors including telecommunications, defense and disaster management.

CAREER: Chandrayaan-3 like its predecessors aims to inspire the youth of India and the world to pursue careers in science, technology and engineering.

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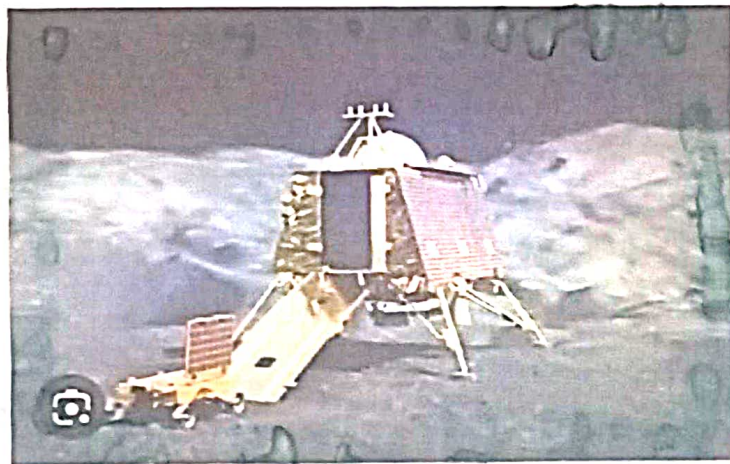
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GLOBAL RECOGNITION Successful mission
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India as a key player in space
exploration.

CHANDRAYAAN-3

Chandrayaan-3 is India's third moon mission conducted by the Indian Space Research Organisation (ISRO). It was launched on July 14, 2023, from Satish Dhawan Space Centre located in Sriharikota. It is a follow-up of Chandrayaan-2 which failed to make a soft landing and crashed during touchdown.



The main objectives of Chandrayaan-3 is to safely and softly land on the surface of the moon and conduct on-site experiments on the lunar surface. So far, only three countries, the U.S., Russia, and China have successfully soft-landed on the moon. After a successful landing on the moon, India became the fourth country to achieve a soft landing on the moon and the first to land on the lunar southern pole.

India's Moon mission Chandrayaan-3 scripted history by successfully landing on the lunar surface on 23rd Aug, 6:04 PM.

With the lander accomplishing a 'soft landing' on the Moon's south pole, India becomes the only country to have ever done so. Now, a rover, which is a small vehicle that is meant to move around on the Moon's surface, will come out of the lander.

What is a soft landing, and why did Chandrayaan-3 land on the south pole?

According to ISRO, the mission's three objectives were to demonstrate a safe and soft landing on the lunar surface, to demonstrate a rover moving on the Moon and to conduct in-situ scientific experiments.

Soft landing simply means landing at a gentle, controlled speed to not sustain damage to a spacecraft. Amitabha Ghosh, a scientist for NASA's rover mission to Mars, "Imagine a spacecraft hurtling through space, at 10 times the speed of an airplane, having to nearly come to a standstill in order to land gently on the Earth - all in a matter of a few minutes and, more importantly, without any human intervention. This, in a nutshell, is a soft landing."

The propulsion module will carry the lander and rover configuration till 100km lunar orbit. The propulsion module has Spectro-polarimetry of Habitable planet Earth (SHAPE) payload to study the spectral and polarimetric measurements of Earth from the lunar orbit.

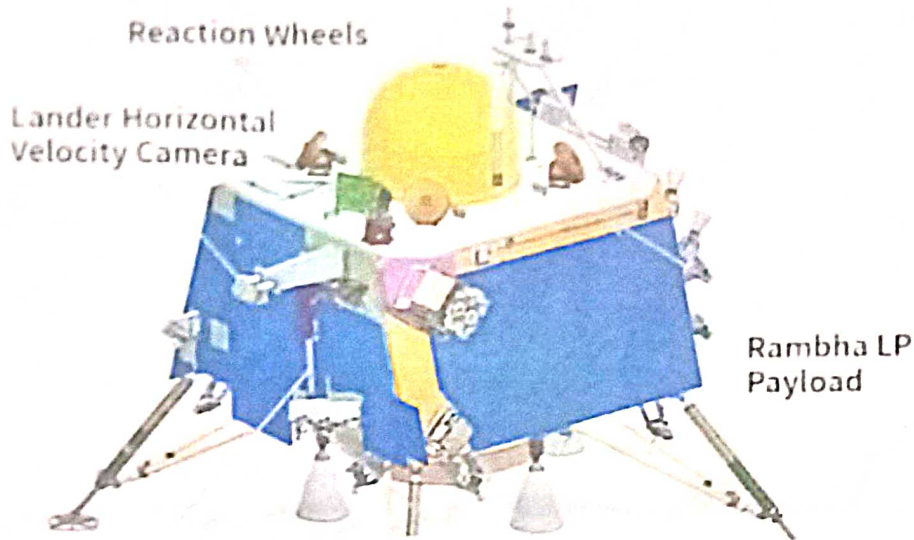
Lander payloads:

Chandra's surface thermophysical Experiment (CHASTE) to measure the thermal conductivity and temperature; Instrument for Lunar Seismic Activity (ILSA) for measuring the seismicity around the landing site; Langmuir probe (LP) to estimate the plasma density and its variations. A passive Laser Retroreflector Array from NASA is accommodated for lunar laser ranging studies.

Rover payloads:

Alpha particle X-ray spectrometer (APXS) and Laser induced Breakdown Spectroscopy (LIBS) for deriving the elemental composition in the vicinity of landing site.

Chandrayaan-3 consists of an indigenous Lander module (LM), propulsion module (PM) and a Rover with an objective of developing and demonstrating new technologies required for Interplanetary missions. The Lander will have the capability to soft land at a specified lunar



site and deploy the Rover which will carry out in-situ chemical analysis of the lunar surface during the course of its mobility. The lander and the Rover have scientific payloads to carry out experiments on the lunar surface. The main function of PM is to carry the LM from launch vehicle injection till final lunar 100km circular polar orbit and separate the LM from PM. Apart from this, the propulsion module also has one scientific payload as a value addition which will be operated post separation of lander module. The lander identified for Chandrayaan-3 is LVM3 M4 which will place the integrated module in an elliptic parking orbit (EPO) of size $\sim 170 \times 36500 \text{ km}$. Several advanced technologies are in lander use, Altimeters, velocimeters, Inertial Measurement, propulsion system, NGC, Hazard Detection & Avoidance.

The Vikram lander and Pragyan Rover will stay alive on moon for one lunar day, that is 14 days on Earth.

And finally, what will happen after Chandrayaan-3's successful landing on the Moon?

Spacecraft are often carrying certain instruments and experiments with them (called payloads) that observe and record what is happening in space. This information is then relayed to Earth for scientists to analyse and study.

FEEDBACK:-

Congratulations to India for the historic landing of Chandrayaan-3 on southern polar region of the Moon.

Chandrayan-3

* Purpose of Chandrayan-3 :-

- Chandrayan-3 is India's third moon mission conducted by ISRO "Indian Space Research Organisation"
- It was launched on July 14, 2023 from Satish Dhawan Space Centre, Sriharikota.
- The main purpose of Chandrayan-3 is safely and soft land on the surface of the moon.
- It is a follow-up of Chandrayan-2 which failed to make a soft landing and crashed during touchdown.
- Chandrayan-3 will consist of a lander module (LM), a propulsion module (PM) and a rover.
- The rover will be used to explore the lunar surface and collect scientific data.
- The lander is called Vikram and the rover is called Pragyan.
- Chandrayan-3 landing point is Shiva-Shakti

- Only 3 Countries, the U.S.A, Russia, and China have successfully soft landed on the Moon.
- If successful India will be the 4th country to achieve a soft landing on the moon and 1st to landing in the lunar southern Pole.
- Chandrayan-3 mission marks a significant achievements for India's space program

uses of Chandrayan-3

- Getting a lander to land successfully and land safely, softly on surface of the moon.
- Observing and demonstrating the rover's driving capabilities on the moon.
- Chandrayan-3 propels India into the emerging "moon economy".
- This sector estimated to be worth billions of dollars, opens doors for new business opportunities technological advancement.

* What we learnt from Chandrayan-3

- Now, as ISRO has successfully landed the Chandrayan-3 on the South pole of the moon, there are several lessons to be learned.
- Embrace Failure as a stepping stone Not a stumbling Block.
- Rigorous Testing
- Openness to Collaboration
- Clear Communication with the public
- Robust Redundancy Planning
- Calculation Decisions

* Conclusion:-

In conclusion the successful landing of Chandrayan-3 on the moon surface marks a defining moment in India's journey of space exploration.

* My opinion:-

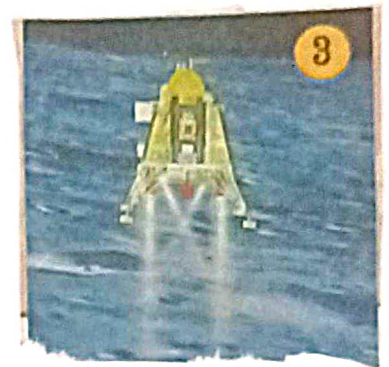
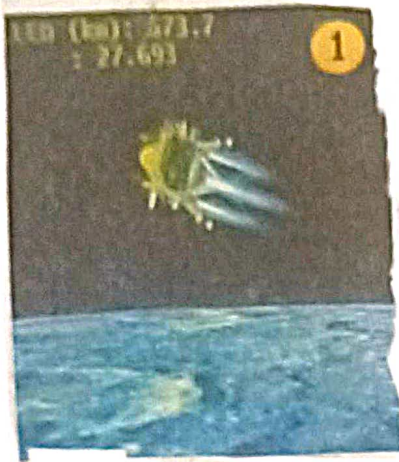
So our govt. declared as on Aug 23rd is National Space day.

- It's very inspirational movement, Good achievement, wonderful success to all of our India.

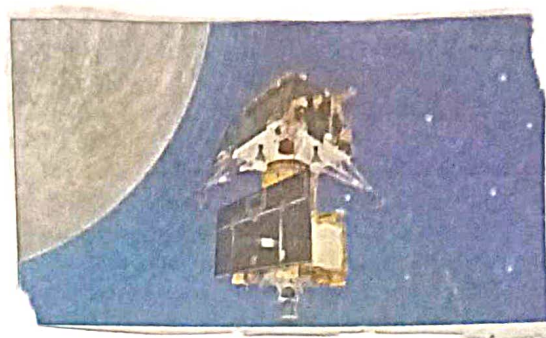
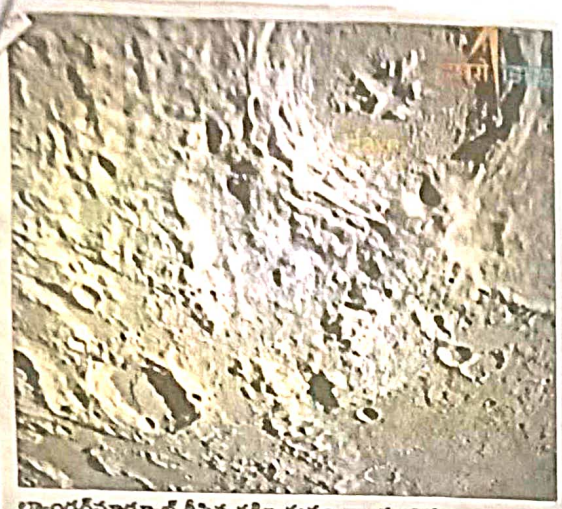
Jai-Hindi

∴ Chandrayaan-3 ∴

P. Lakshmi
BSC (Computer)



- * Chandrayaan-3 is the third Indian lunar exploration mission under the Indian space research organisation.
- * It consists a lander named Vikram and a rover named Pragyan, similar to those of the mission.
- * The propulsion module carried the lander and rover configuration to lunar orbit in preparation for a powered descent by the lander.
- * Chandrayaan-3 was launched on 14th July 2023.
- * The space craft entered the lunar orbit on 5 Aug and the lander touched down in the lunar south pole region.
- * On 23 August 2023 at 12:32 UTC, making India the fourth country to successfully land on the moon, and the first to do so near the lunar south pole.



- * Chandrayaan-3 was launched aboard on LVM3 - m4 rocket on 14 July 2023, at 9:05 UTC from Satish Dhawan space centre second launch pad in Sriharikota, Andhra Pradesh.
- * India entering the earth parking orbit with a perigee of 170 km and an apogee of 36,500 km (22,680 mi)
- * On 17 August, the Vikram lander separated from the propulsion module to begin the last phase of mission.
- * The polar satellite launch vehicle launch complex was commissioned during 1990.
- * It has a 3,450 tonne, 76.5 m high mobile service tower which provides the SP-3 payload clean room.
- * The first launch of India's Geosynchronous Satellite launch vehicle was successfully completed on 18 April 2001.
- * Finally, the Chandrayaan-3 successfully landed on the moon Aug 23rd 2023

CHANDRAYAAN-3

Chandrayaan 3 is a follow on mission to Chandrayaan-2 to demonstrate end to end capability in safe landing and roving on the lunar surface. It consists of lander and rover. It will be launched by LVM3 from Satish Dhawan space centre SHAR, Sriharikota.



The propulsion module will carry the lander and rover configuration till 100km lunar orbit. The lander module was attached to the orbiter which was used in the Chandrayaan-2 mission.

The propulsion module has spectropolarimetry of habitable planet earth payload to the spectral and polaric metric measurements of earth from the lunar orbit. The entire budget of this mission is 615 crores.

Objectives:

- 1) Demonstrate safe, soft landing on the lunar surface.
- 2) To demonstrate rover roving on moon.
- 3) To conduct in-site scientific experiments.

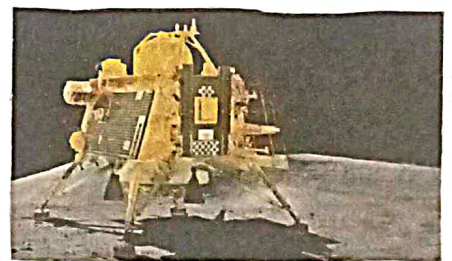
There are 3 main components in this mission.

① Propulsion module: It carries lander, rover configuration to a 100km lunar orbit. It is box like structure with large solar panel mounted on one side and a cylindrical mounting structure for lander on top.

Mass - 2148Kg

Power generation - 758W

② Lander module: The vikram lander is responsible for the soft landing on moon. It's also box shaped with 4 landing legs and also 4 landing thrusters capable of producing nearly 800 newtons of thrust each. It carries the rover and various scientific instruments to perform on site analysis.



Mass: 1752 kg (including rover of 26 kg)

Power generation: 738W

③ Rover: The pragyan rover is a six wheeled vehicle with a mass of 26 kg.

The size of the rover is

917mm x 750mm x 397mm. The

rover is expected to take

multiple measurements to

support research into the composition

of the lunar surface, the presence of

water, ice in the lunar soil, the history

of lunar impacts and evolution of

moon's atmosphere.



Mass: 26 kg

power generation: 50W

* This mission is two module configuration.

- propulsion module carries lander from launch injection to lunar orbit.

- Lunar module - is accommodated inside the lander with rover.

* India is the 4th country to reach moon and the very first to reach south pole of moon.

* The assumed life of the mission is 14 earth days.

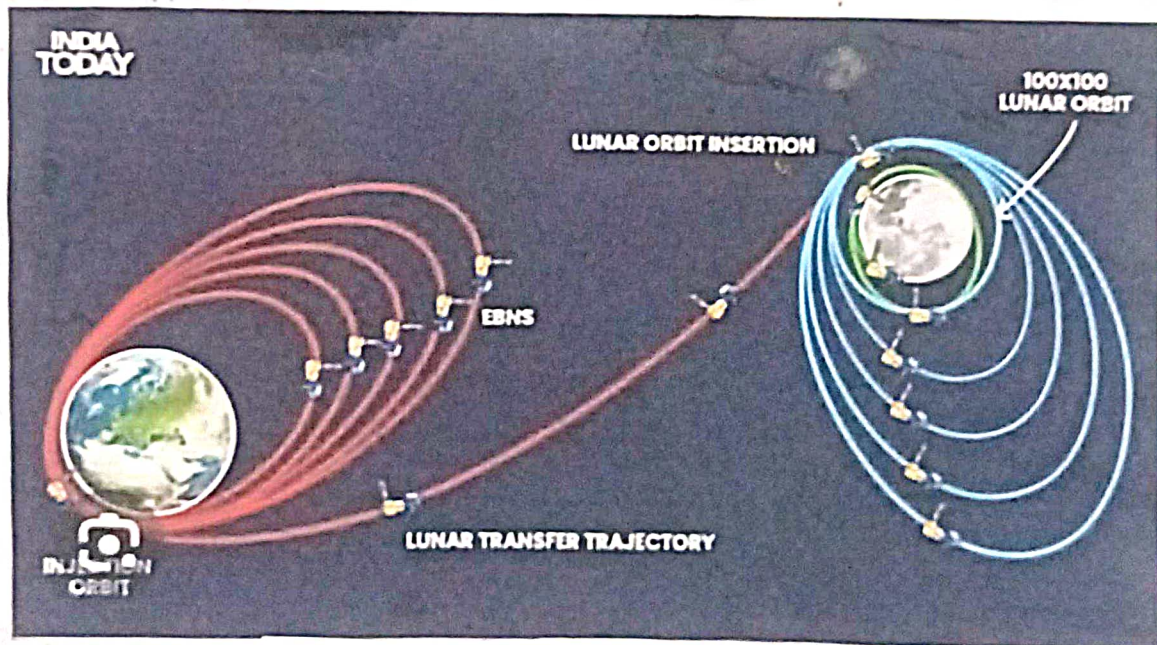
* It was launched on 14 July 2023 and landed on 23 August 2023.

* The Vikram's landing site is named as Shiv Shakti Point by the prime minister.

* Communication:

- Propulsion module communicates with IDSN.
- Lander module communicates with both IDSN and Rover.
- Rover only communicates with lander.

* The Path of Chandrayaan-3:



India's Mission to The Moon With Chandrayaan-3

Chandrayaan-3 is the third Indian lunar exploration mission under the Indian Space Research Organisation's (ISRO) Chandrayaan programme. It consists of a lander named Vikram and a rover named Pragyan, similar to those of the Chandrayaan-2 mission. The propulsion module carried the lander and rover configuration to lunar orbit in preparation for a powered descent by the lander.

India's third moon mission, Chandrayaan-3 was successfully launched at 2:35pm on 14 July from Satish Dhawan Space Centre in Sriharikota, Andhra Pradesh. It was India's third attempt at self-landing on the lunar surface after the Chandrayaan-2 which was failed in 2019. The third lunar exploration mission was developed by ISRO. Landing on the South pole of the Moon, India was the first country to make history.

India would be the fourth country - after the United States, Russia and China. The budget of the Chandrayaan-3 mission was about 615 crores. The whole Indian people watched the launch on Smart phones and Televisions.

Scientists and officials clapped, cheered and hugged each other as the spacecraft landed and people across India broke out in celebration, setting off firecrackers and dancing in the streets.

Our prime Minister Narendra Modi tweeted that Chandrayaan-3 described a new chapter in India's Odyssey. It soars high, everything the dreams and ambitions of every Indian.

This achievement was the result of the tireless dedication and hardwork of our Scientists.

I Salute their talents and hardwork for making our country proud all over the world.

Name : B. Dindraya

Group : BSc Mathematics

year : 1st year - 1st Sem.

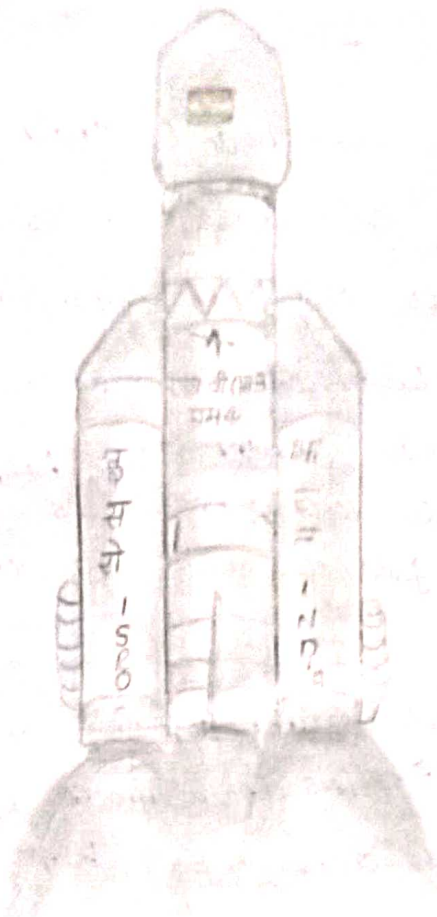
=CHANDRAYAN-3=

Introduction: Chandrayan-3 was launched by India on 14th July 2023. Chandrayan-3 is India's third Moon mission operated by the Indian Space Research Organization (ISRO). Chandrayan-2 was launched by ISRO on 22nd July 2019 from Sriharikota Space Center. But before this mission could be completed, ISRO lost contact with the lander Vikram. Chandrayan-2 failed to make soft landing and crashed. But

again Chandrayan-3 was launched from Sriharikota Space Center. Chandrayan-3 has been made by the scientists of India. About 615 crore rupees have been spent to make Chandrayan-3 mission a success. The main objective of Chandrayan-3 will be to make a safe and soft landing on lunar surface and to search for a variety of resources on the lunar surface. So far, only three countries, the U.S.A, Russia and China have successfully landed on the Moon. Of successful India will be fourth country to soft land on the Moon and the first to land on the Moon's South Pole.

We have the following advantages from Chandrayaan-3:

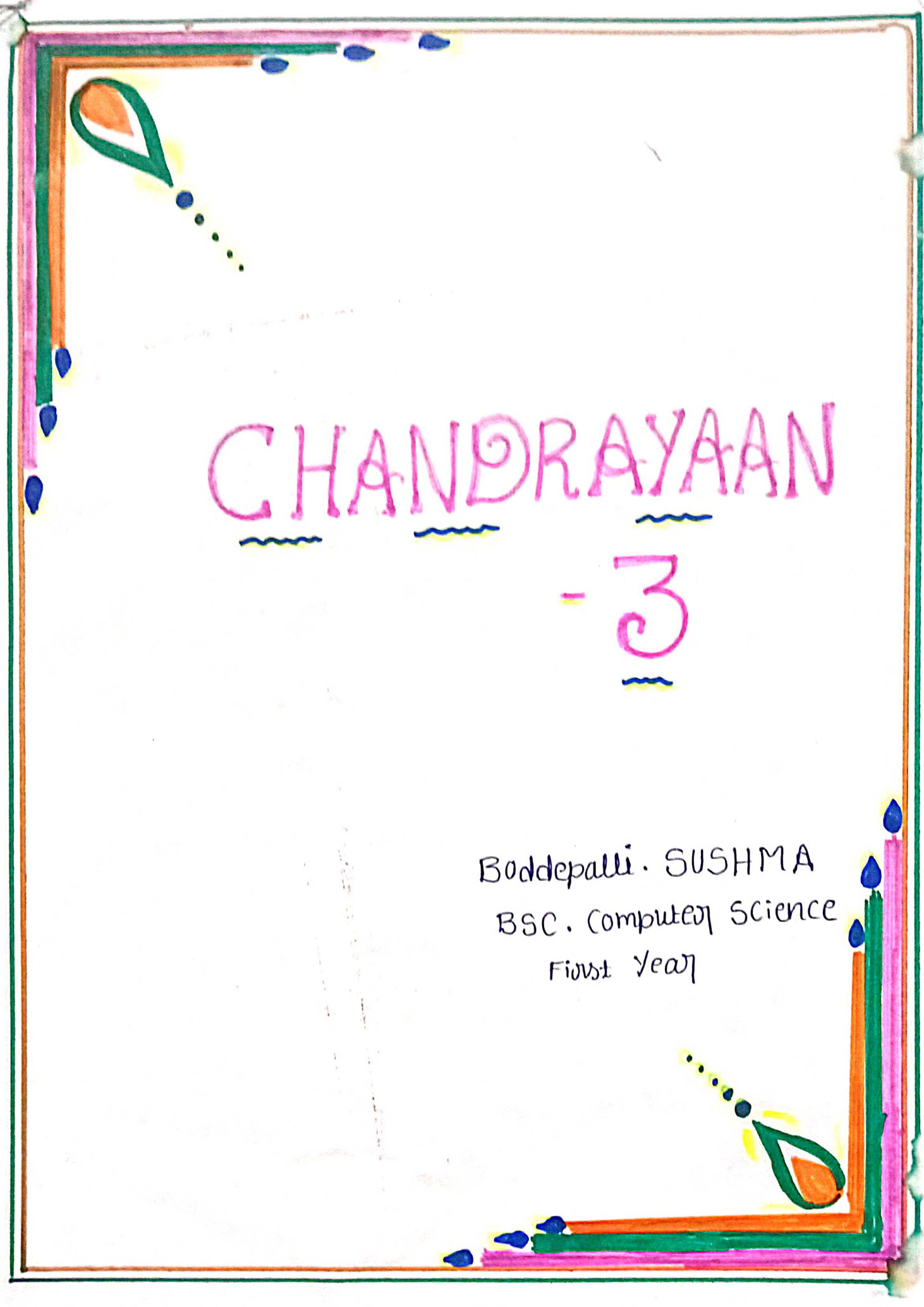
- i. International recognition of scientists.
- ii. Will become the fourth country in the world to reach the moon.
- iii. Advances in space technology
- iv. Importance to youth
- v. Resources will be found.



Conclusion: From Chandrayaan-3 we can get many information related to moon. It can be ascertained here by the Scientists whether human life is possible on the moon or not and how beneficial the minerals present on the moon will be for us or not. If Chandrayaan-3 mission is successful then India will be fourth in the list of countries to have landed on the moon.

Chandrayaan-3 mission marks a significant achievement for India's space program. This achievement was the result of the tireless dedication and hardwork of our Scientist.

"I truly salute the talents and hard work Scientists for making our country proud all over the world."



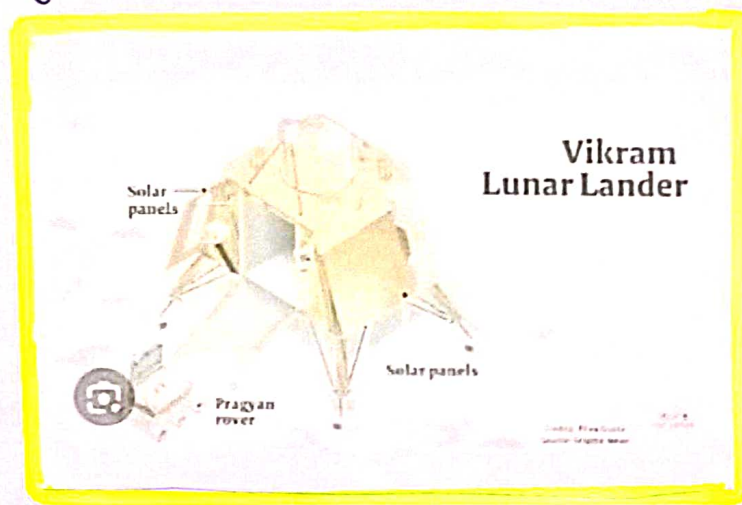
CHANDRAYAAN

- 3

Boddepalli. SUSHMA
BSC. Computer Science
First Year



Lander payloads :- Chandara's surface Thermophysical experiment (CHASTE) to measure the thermal conductivity and temperature, Instrument for lunar seismic activity (ILSA). A passive Laser Retroreflector Array from NASA is accommodated for lunar laser ranging studies.



Rover payloads :- Alpha particle x-ray Spectrometer (APXS) and laser induced breakdown Spectroscopy (LIBS) for deriving the elemental composition in the vicinity of landing site.

⇒ To demonstrate safe and soft landing on lunar surface.

⇒ To demonstrate rover moving on the moon and.

⇒ To conduct in-situ scientific experiments.

Chandrayaan-3

"CHANDRAYAAN" has successfully soft landed on the moon. Congratulations "India".

The lander module is in $25 \text{ km} \times 134 \text{ km}$ orbit. Powered descent is expected to commence on August 23, 2023 around 1745 Hrs. IST.

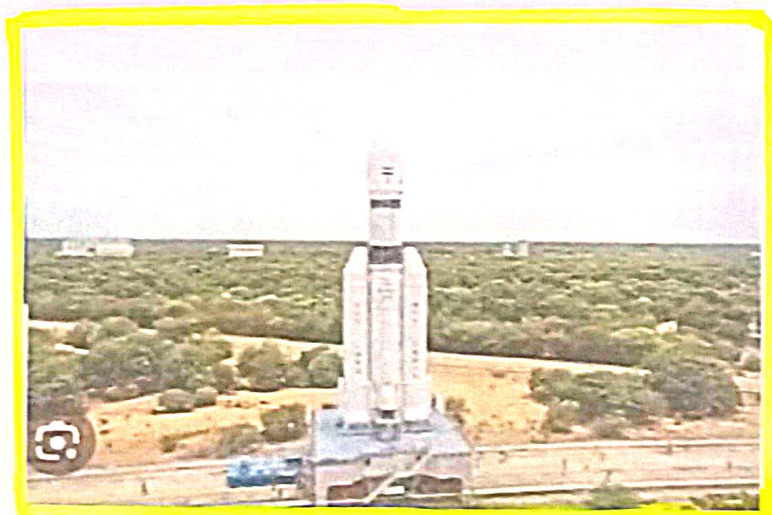
[August 20, 2023]

The lander module is in $113 \text{ km} \times 157 \text{ km}$ orbit around the moon. Second de-boosting is planned for August 20, 2023

[August 19, 2023]

Lander module is successfully separated from the propulsion module. Deboosting planned for August 18, 2023

[August 17, 2023]



The spacecraft is in an orbit of $153 \text{ km} \times 163 \text{ km}$ after the firing on August 16, 2023.

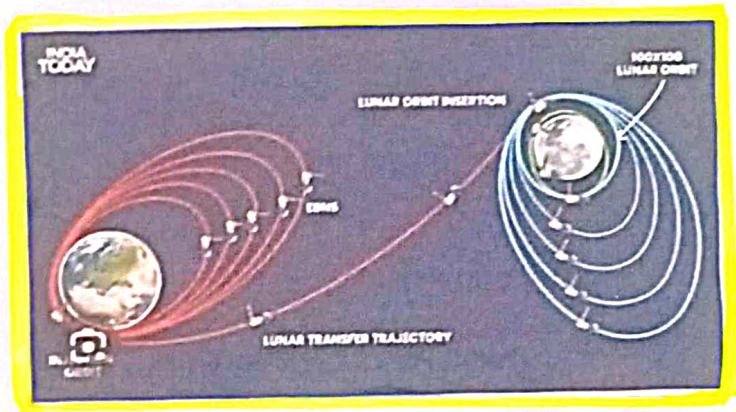
[August 16, 2023]

The mission is in the orbit circularisation phase.
the spacecraft is in $151 \text{ km} \times 179 \text{ km}$ orbit.



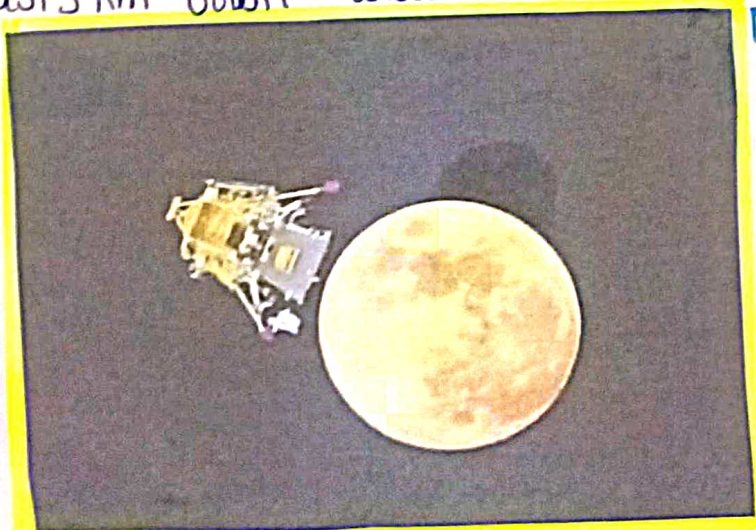
Chandrayaan-3's orbit is reduced to $174 \text{ km} \times 14371 \text{ km}$ following a manoeuvre performed on August.

[August 09, 2023]

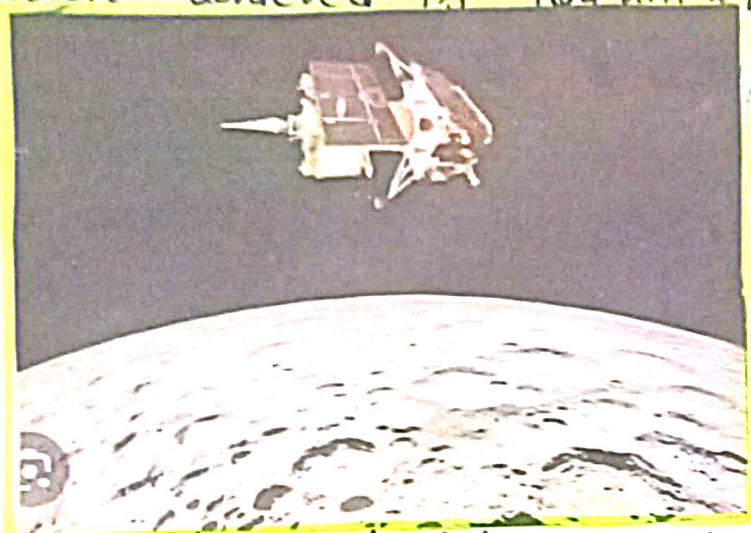


LBN#2 is successfully completed. the spacecraft is in $170 \text{ km} \times 4313 \text{ km}$ orbit around the moon.

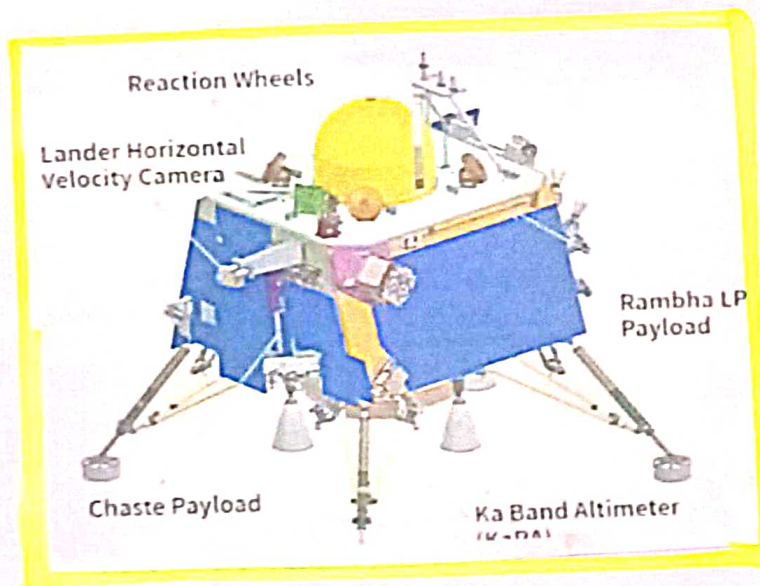
[August 06, 2023]



Chandrayaan-3 is successfully inserted into lunar orbit. The orbit achieved is $164 \text{ km} \times 18074 \text{ km}$, as intended.



The spacecraft is inserted into the trans-lunar orbit. The orbit achieved is $288 \text{ km} \times 369828 \text{ km}$. Lunar-orbit insertion (LOI) is planned for Aug 5, 2023 [August 01, 2023]



The launch is scheduled for July 14, 2023, at 12:35 HRS. IST from the Second Launch Pad, SPS - SHAR "Sriharikota".



" AND SUCCESSFULLY SOFT LANDED ON
 THE "MOON"
 CONGRATULATIONS TO INDIA,
 TEAM OF "ISRO" "

Report - on August 23, India scripted history in space exploration as Chandrayaan-3 landed successfully on the Moon's South Pole. Shortly after the landing, ISRO said that the communication line had been established between the Vikram lander and its command centre in

" Everything is working very well "

" Every success story is also a story of great failure "