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# Practice Questions

Consider the following statements with respect to *Prosopis Chilensis*:

- 1. It is an invasive species found predominantly in the western Himalayas.
- 2. It is a drought-resistant plant native to the arid regions of South America

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

# Practice Questions

Project Sky Canvas is often seen in the news. It is related with:

- a. Observation of distant galaxies
- b. Control of green house gas emission
- c. Monitoring el-nino condition
- d. Artificial meteor shower ✓

# Practice Questions

Consider the following statement with respect to the first water census:

1. It has been conducted by the NITI Aayog ✗
2. The majority of the water bodies in India are privately owned. ✓
3. The majority of the water bodies present in India are natural waterbodies. ✗

How many statements given above is/are correct?

- a. Only one ✓
- b. Only two
- c. All three
- d. None

# Practice Questions

The term SuperBIT is often seen in the news context:

- a. A basic unit of information in Super Computers
- b. A high-pressure balloon system with a telescope
- c. A new portal for monitoring the implementation of government schemes
- d. None

# Practice Questions

Consider the following statements with respect to The Jupiter Icy Moons Explorer

1. It has been launched by NASA, USA. ✗
2. It is the first mission to orbit a planetary moon other than Earth's.

Which of the statements given above is/are correct?

- a. 1 only
- b. 2 only
- c. Both 1 and 2
- d. Neither 1 nor 2

# Zero FIRs

What is an FIR?

According to the e-journal Legal Service India, a first information report (FIR) is the information given to a police officer in writing **as per the provisions of Section 154 of the Code of Criminal Procedure (CrPC)**.

From the point of view of an informant, the main purpose of an FIR is to set criminal law into motion, while for the police, the main purpose of an FIR is to obtain information about alleged criminal activity and take necessary steps to produce the perpetrator(s) before a court.

All an informant has to do to file an FIR is **to visit the local police station and furnish information, orally or in writing**, about the commission of an offence. Further, anyone can file an FIR – the person approaching the police does not necessarily have to be the victim of or an eyewitness to an offence.

However, in cases when a crime has been committed outside the jurisdiction of a police station that an informant has approached, the informant is likely to be asked to approach a police station with the proper jurisdiction

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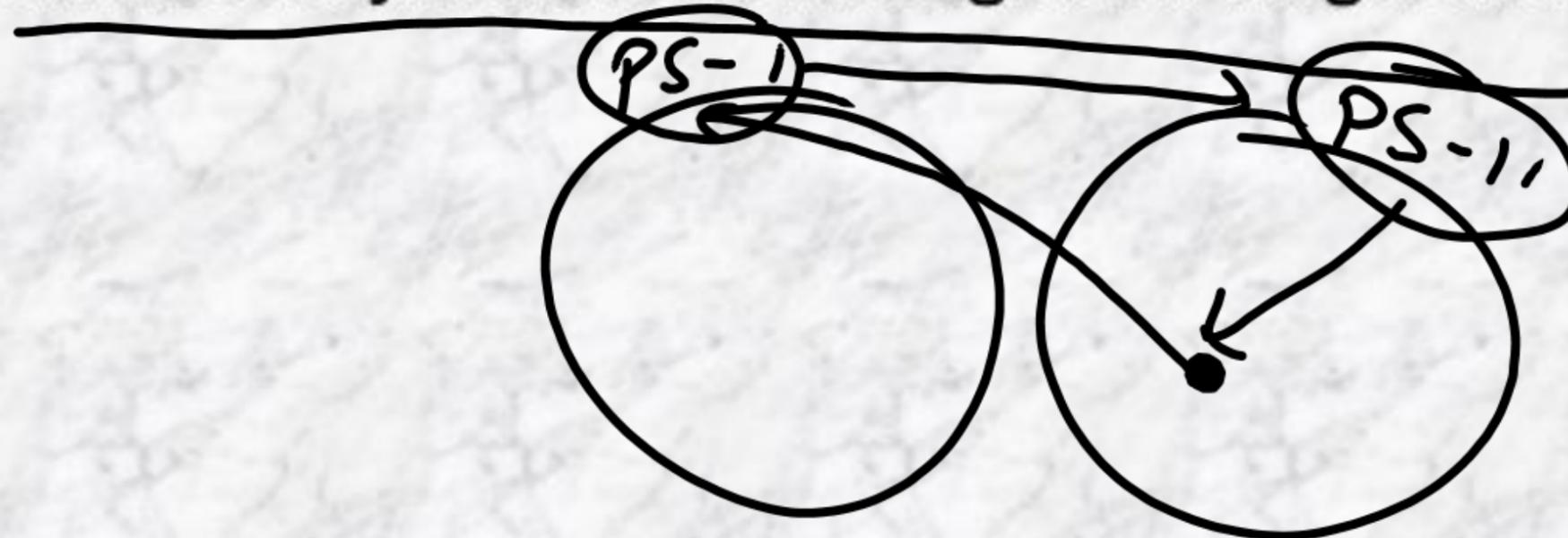
# Zero FIRs

What is a zero FIR?

Unlike an FIR, which is restricted by jurisdiction, a zero FIR can be filed in any police station, regardless of whether the offence was committed under the jurisdiction of that particular police station.

Whereas FIRs have serial numbers assigned to them, zero FIRs are assigned the number '0'. Hence the name.

After a police station registers a zero FIR, it has to transfer the complaint to a police station that has the jurisdiction to investigate the alleged offence.



06/24

## **Zero FIRs**

**Once a zero FIR is transferred, the police station with the appropriate jurisdiction assigns it a serial number, thereby converting it into a regular FIR.**

**The concept of a zero FIR is relatively new and was introduced on the recommendation of the Justice Verma Committee in the aftermath of the Nirbhaya gang rape case in 2012 to put a legal obligation on police to take quick action and prevent them from using the excuse of the absence of jurisdiction.**

# BHARAT6G Alliance / 6G, 5G, 4G

It is a collaborative platform consisting of public and private companies, academia, research institutions, and Standards development organizations.

→ multi-stakeholder  
Initiative

It will forge coalitions and synergies with other 6G Global Alliances, fostering international collaboration and knowledge exchange

→ International  
Collaboration

The primary objective of B6GA is to understand the business and societal needs of 6G beyond technology requirements, foster consensus on these needs, and promote high-impact open research and development (R&D) initiatives.

→ Promote India  
Startups

B6GA aims to bring together Indian startups, companies, and the manufacturing ecosystem to establish consortia that drive the design, development and deployment of 6G technologies in India

→ Promoting Indian  
Exports

One of the key goals of B6GA is to facilitate market access for Indian telecom technology products and services, enabling the country to emerge as a global leader in 6G technology.

# BHARAT6G Alliance, 6G, 5G, 4G



Feature	4G	5G	6G (anticipated)
Data Speed ✓	Up to 100 Mbps (LTE) ✓	Up to 10 Gbps ✓	Anticipated to be <u>significantly faster</u> than 5G ✓
Latency	Around 30 milliseconds ✓	Sub-10 milliseconds (targeted) ✓	Expected to have even lower latency, possibly in the order of microseconds ✓
Frequency Bands	Primarily below 6 GHz ✓	Utilizes a broader spectrum including mmWave (millimeter-wave) bands ✓	Expected to use <u>higher</u> frequency bands with advanced technologies ✓
Connection Density	Thousands of devices per km <sup>2</sup> ✓	Up to 1 million devices per km <sup>2</sup> ✓	Anticipated to support even <u>higher device density</u> , especially for <u>IoT applications</u> ✓

# BHARAT6G Alliance, 6G, 5G, 4G

Feature	4G	5G	6G (anticipated)
<b>Network Architecture</b>	LTE (Long-Term Evolution)	NG-RAN (Next-Generation Radio Access Network) and Core Network Slicing	Envisaged to have a more advanced and flexible network architecture
<b>Applications</b>	Mobile broadband, HD video streaming, IoT	Enhanced Mobile Broadband (eMBB), Massive Machine Type Communications (mMTC), Ultra-Reliable Low Latency Communications (URLLC)	Expected to support advanced applications including holographic communication, advanced AI, and immersive experiences
<b>Technological Advances</b>	MIMO (Multiple Input Multiple Output), Carrier Aggregation	Massive MIMO, Beamforming, Network Slicing	Predicted to leverage advanced technologies like holography, AI-driven communication, and quantum communication

# BHARAT6G Alliance, 6G, 5G, 4G

Feature	4G	5G	6G (anticipated)
<b>Security</b>	Enhanced compared to previous generations	Improved security features including encryption and authentication	Expected to have more robust security mechanisms, potentially leveraging quantum-safe cryptography
<b>Global Standardization</b>	LTE Advanced (3GPP Release 10) and LTE Advanced Pro (Release 13 and beyond)	3GPP Release 15 and beyond	Standardization efforts are ongoing, but likely to involve global collaboration through organizations like ITU (International Telecommunication Union)
<b>Timeline</b>	Deployed widely since the mid-2010s	Commercially available from 2019 onward	Expected to start deployment in the late 2020s and beyond

# **On-tap Licensing of Universal Banks and SFBs.**

In 2016, the central bank introduced an 'on-tap' licence for private sector banks.

'On-tap' licence means that the window for obtaining a bank licence from the RBI is open all year, or that the RBI will accept applications and issue licences to banks at any time.

Earlier, the RBI would invite applications for bank licences and interested parties would submit their applications within a fixed time frame set by the central bank.

This arrangement was not always available. Anyone who meets the requirements can now apply for a bank licence at any time.

# On-tap Licensing of Universal Banks and SFBs.

Feature	Payment Banks	Small Finance Banks
Regulatory Authority	Regulated by the <u>Reserve Bank of India (RBI)</u>	Regulated by the <u>Reserve Bank of India (RBI)</u>
Purpose	Focus on providing basic banking services	Designed to provide <u>financial services</u> to the <u>unserved and underserved sections of the population</u>
Deposit Limit ✓	Maximum balance limit per customer: ₹2 lakh	No such limit
Loan Provision ✓	Cannot issue loans or credit cards	Allowed to provide <u>loans and advances</u>

# On-tap Licensing of Universal Banks and SFBs.

Feature	Payment Banks	Small Finance Banks
✓ Investment Restrictions	Cannot offer <u>investment products like mutual funds</u> or insurance	Can offer a variety of <u>investment products like mutual funds and insurance</u>
Network Presence	Primarily operate through <u>technology-driven platforms, ATMs, and business correspondents</u>	Operate <u>through a network of branches</u> and use <u>technology-driven platforms as well</u>
Target Customer Base	Aimed at unbanked and underbanked individuals, migrant laborers, and low-income households	Target customers include <u>small and marginal farmers, micro and small industries, and other unorganized sector entities</u>

# On-tap Licensing of Universal Banks and SFBs. <sup>AU</sup>SFB

Feature	Payment Banks	Small Finance Banks
Capital Requirement ✓	Minimum paid-up capital requirement is ₹100 crore	Minimum paid-up capital requirement is ₹200 crore <sub>at least</sub>
Ownership Structure ✓	<u>Ownership</u> restricted to <u>individuals and entities</u> with existing <u>non-banking business</u> (promoters cannot hold more than 40%)	Promoters must <u>contribute at least 40%</u> to the paid-up capital initially, which will be locked in for 5 years.
Interbank Transactions	Allowed to perform interbank transactions	Allowed to perform interbank transactions

# SAGAR SAMPAK

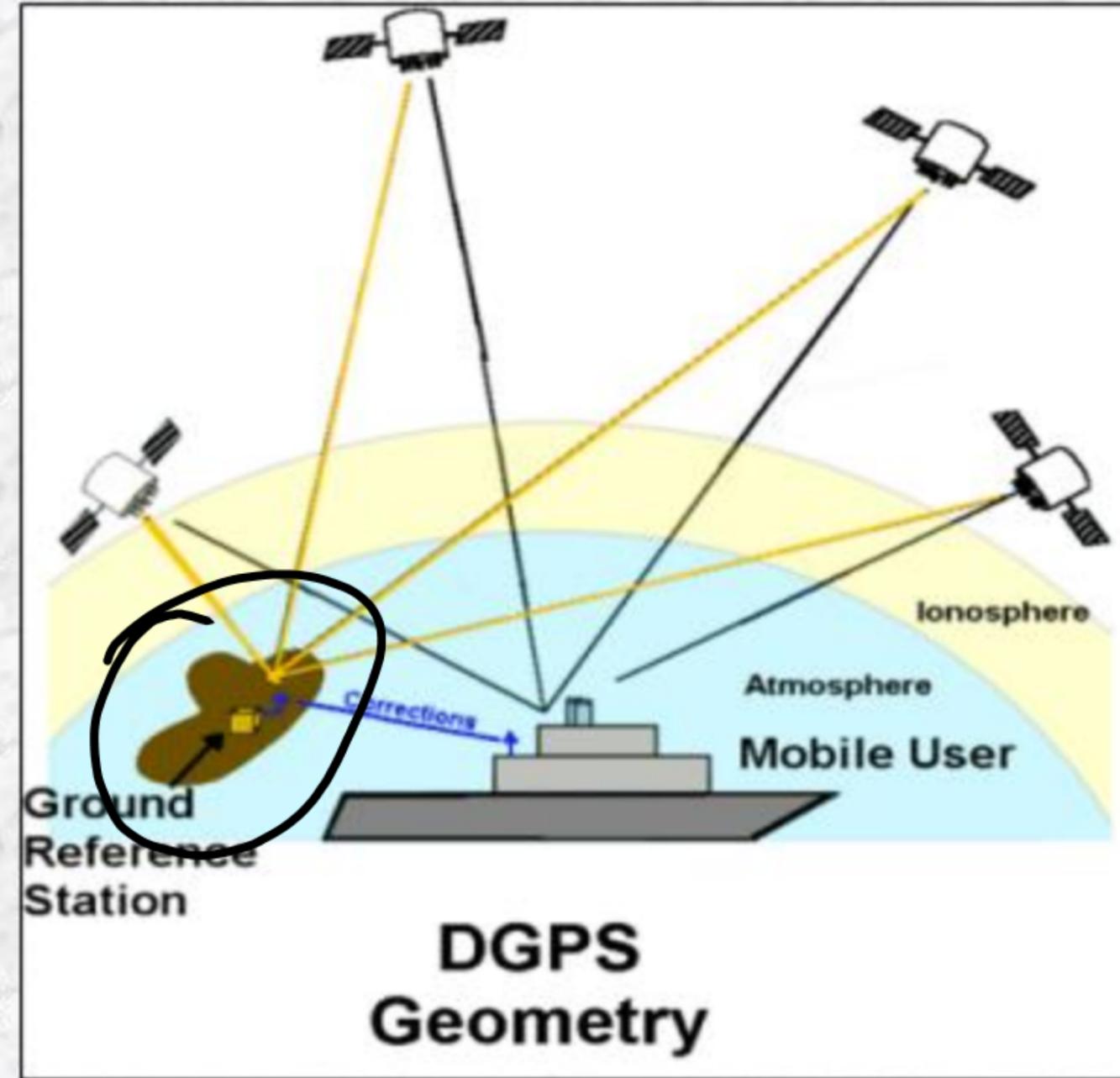
It is an indigenous Differential Global Navigation Satellite System (DGNSS) called Sagar Sampark.

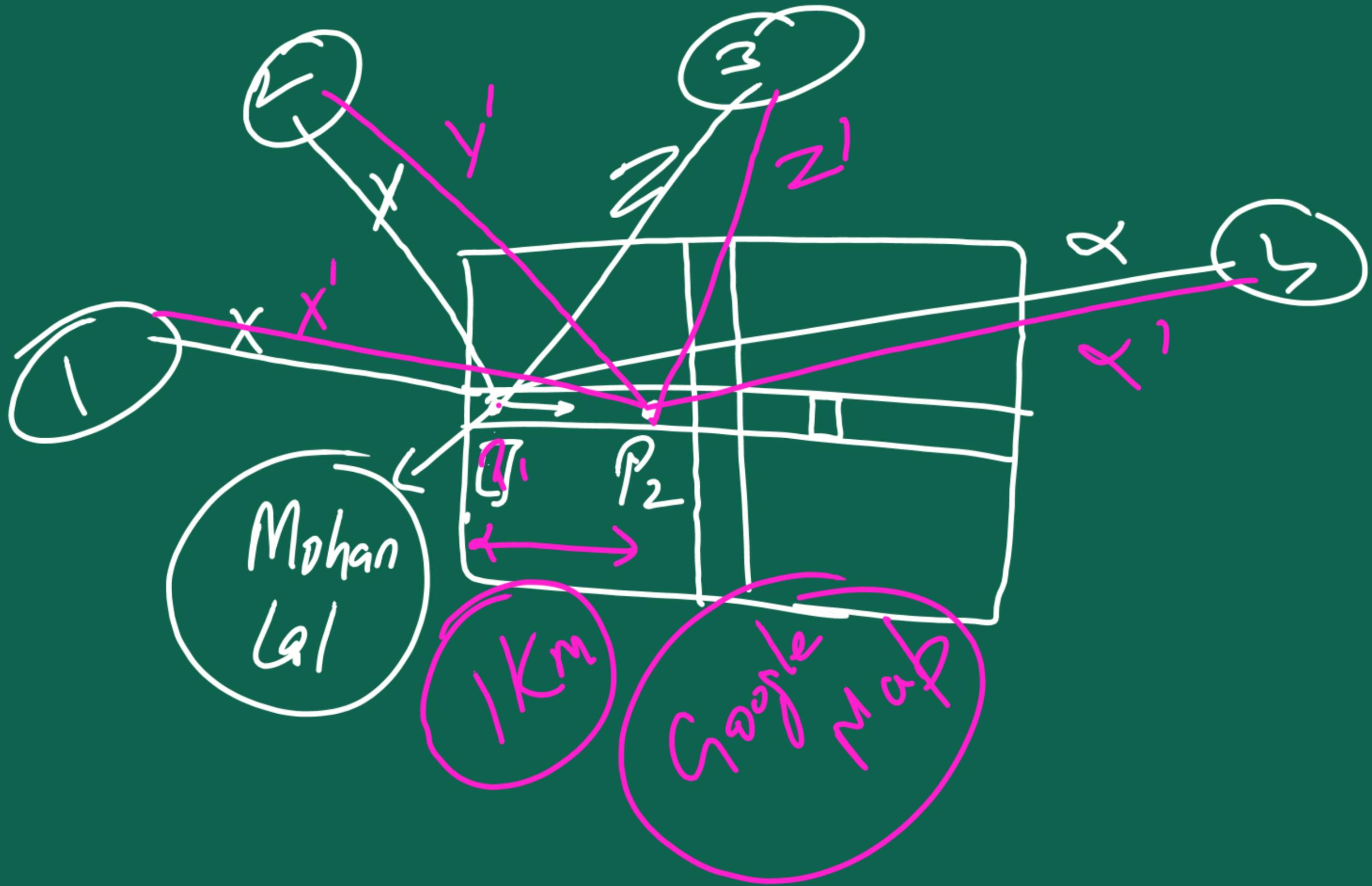
It corrects the errors and inaccuracies in the Global Navigation Satellite System (GNSS) and provides more accurate positioning information

DGNSS is a technology that helps make GPS and other satellite navigation systems more accurate

It will provide accurate information to the ships for safe navigation and will reduce the risk of collisions, groundings, and accidents in the port and harbour areas

It has been launched by the Ministry of Ports, Shipping and Waterways





# India's Only Ape Species: The Hoolock Gibbon

It is India's only Ape species found in Northeast India

It doesn't have a tail

The mode of locomotion is known as brachiation. They are capable of leaping long distances through the air from branch to branch or running atop the leaves in the treetops.

Gibbons, the smallest and fastest of all apes, live in tropical and subtropical forests in the southeastern part of Asia.

The hoolock gibbon, unique to India's northeast, is one of 20 species of gibbons on Earth.

The estimated population of hoolock gibbons is 12,000.



# India's Only Ape Species: The Hoolock Gibbon

Since 1900, gibbon distribution and populations have declined dramatically, with only small populations in tropical rainforests

The hoolock gibbon faces threat primarily from the felling of trees for infrastructure projects.

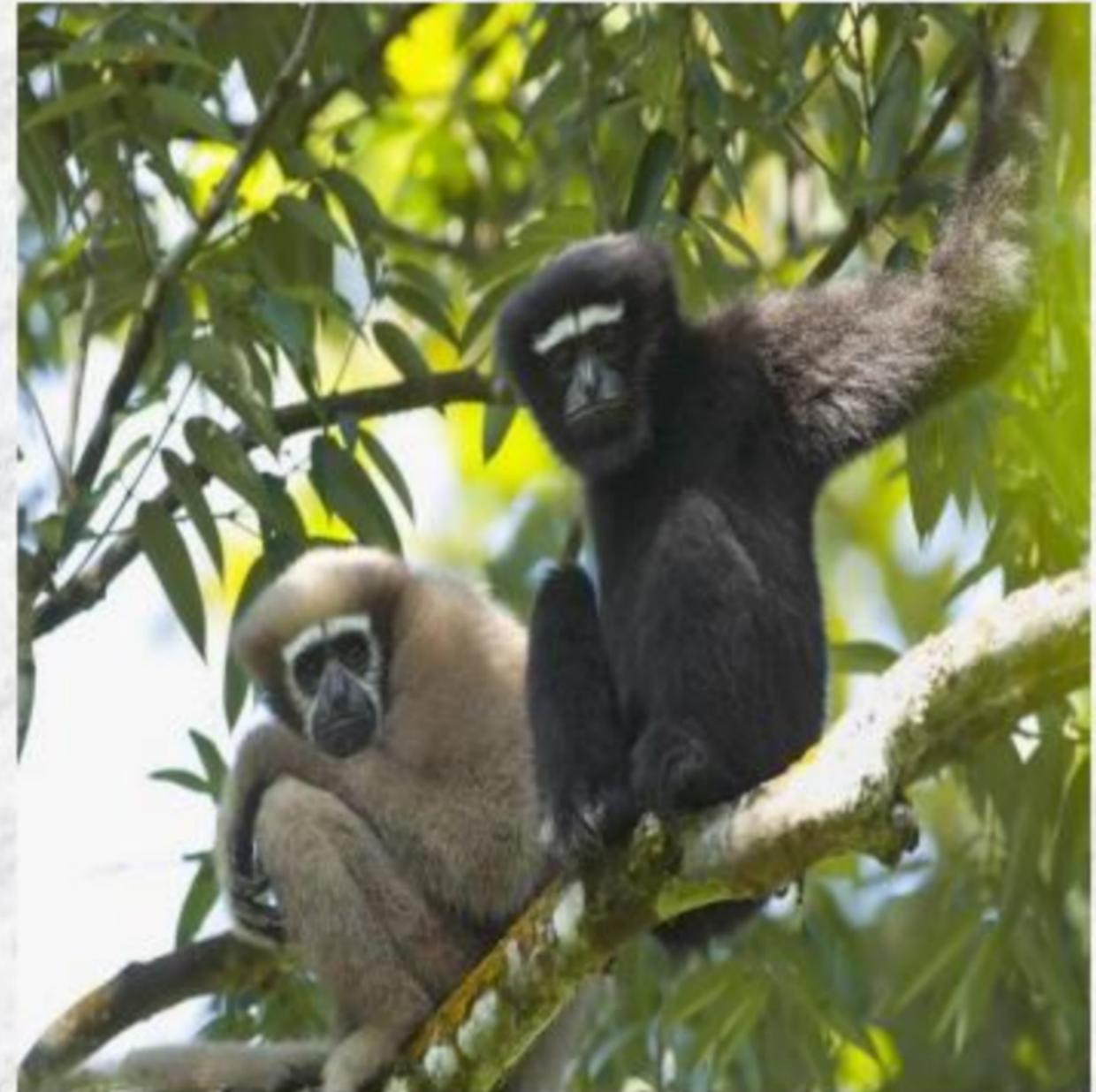
It is categorised as Western Hoolock Gibbon and Eastern Hoolock Gibbon

Western Hoolock Gibbon – Endangered (IUCN)

Eastern Hoolock Gibbon – Vulnerable (IUCN)

**WPA:** Schedule I

**CITES:** Appendix I



# PRADHAN MANTRI SHRAM YOGI MAAN DHAAN (PM-SYM)

The scheme is meant for old age protection and social security of Unorganised Workers (UW) who are mostly engaged as rickshaw pullers, street vendors, mid-day meal workers

## Eligibility Criteria

Should be an unorganised worker (UW)

Entry age between 18 and 40 years

Monthly Income Rs 15000 or below

## Should not be

engaged in Organized Sector (membership of EPF/NPS/ESIC)

an income tax payer

# PRADHAN MANTRI SHRAM YOGI MAAN DHAAN (PM-SYM)

He/ She should possess

1. Aadhar card
2. Savings Bank Account / Jan Dhan account number with IFSC

## Features:

Once the beneficiary joins the scheme at the entry age between 18-40 years, he has to contribute till he attains the age 60 years.

It is a voluntary and contributory pension scheme, under which the subscriber would receive a minimum assured pension of Rs 3000/- per month after attaining the age of 60 years

# Open Network for Digital Commerce (ONDC)

ONDC was incorporated as a Section 8 company in December 2021, with the Quality Council of India and Protean eGov Technologies Limited as Founding Members.

The Open Network for Digital Commerce (ONDC) acts as a middleman in the world of online shopping, connecting buyers and sellers.

It functions similarly to the Unified Payment Interface (UPI), a popular mobile payment system that allows people to make mobile payments regardless of the specific payment app they use.

Increased choice and competition: ONDC brings together multiple e-commerce sellers, offering consumers a broader range of choices at competitive prices.

# Open Network for Digital Commerce (ONDC)

**Lower prices:** One of the main benefits of ONDC is that its prices are relatively lower compared to other food delivery applications. This affordability can help users save money on their orders, making it an attractive option for cost-conscious individuals and families.

**Discounts and promotions:** ONDC on Paytm offers promotional deals & discounts, to its users. These can include discounts on certain restaurants or specific menu items, free delivery, or special seasonal offers.

**Support for small businesses:** ONDC offers small businesses and local vendors the opportunity to reach a larger customer base by integrating them into a common platform. Customers can also find a wide range of products that may not be available on traditional eCommerce sites but are easily found locally.

# Open Network for Digital Commerce (ONDC)

**Government-backed initiative:** Supported by the Department for Promotion of Industry and Internal Trade (DPIIT) of the Government of India, ONDC is a project that enjoys government backing, providing users with credibility and assurance.

**Customer support:** Integrated within the app, ONDC provides dedicated customer support to promptly address any concerns or queries users may have. Users can reach out to the support team for assistance with order tracking, payment issues, or general inquiries.

# Gambusia Fish - Mosquito Fish

In the last few months, various government and non-governmental organisations in Andhra Pradesh, Odisha, and Punjab have released mosquitofish into local water bodies to address a mosquito menace

They eat mosquito larvae as soon as they hatch, and can also eat other insects and plant materials

Mosquitofish are native to North America and usually live in the shallows of slow-moving freshwater streams.

However, they can also survive in salt water and have been introduced to coastal marshes to help control mosquitoes



# Gambusia Fish - Mosquito Fish

Has this happened for the first time?

In 1928, Gambusia was first introduced in India during British rule.

Mosquitofish is among the hundred most detrimental invasive alien species.

In Australia, led to the local extinction of the red-finned blue-eye an endemic fish species

What about India?

In 2018, the National Biodiversity Authority of the Government of India also designated *G. affinis* and *G. holbrooki* as invasive alien species



# SHELF CLOUD ✓

Resembling a shelf hanging from the sky, a 'shelf cloud' is a wide, low cloud that appears before a big storm.

Shelf clouds can be scary, but they usually don't cause tornadoes or extremely dangerous weather on their own.

They often appear ahead of powerful thunderstorms with heavy rain, strong winds, and occasionally hail or tornadoes.

Shelf clouds form when warm, moist air is pushed up by colder, dense air.



# SHELF CLOUD

Shelf clouds often resemble snow plows, big waves or tsunamis and can be very scary-looking since they are usually low-hanging.

Sometimes they may be found only a couple hundred feet above the ground.

Even though they look ominous and people often mistake them for tornadoes, shelf clouds themselves are harmless.



# Chandrayaan 01/02/03

Feature	Chandrayaan-1	Chandrayaan-2
Launch Date	October 22, 2008	July 22, 2019 ✓
Launch Vehicle	PSLV-C11 ✓	GSLV Mk III-M1 ↗
Objectives	Study the <u>Moon's surface</u> and <u>mineral composition</u> , search for water ice	<u>Orbital studies</u> , <u>lander with rover</u> for in-situ <u>analysis</u> , <u>study lunar south pole</u> , search for water ice
Orbiter	Yes ✓	Yes
Lander	No	✓ Vikram Lander
Rover	No	✓ Pragyan Rover
Soft Landing Attempt	No	Yes (Vikram Lander attempted but lost communication during descent)

# Chandrayaan 01/02/03

Feature	Chandrayaan-1	Chandrayaan-2
Location of Landing Site	-	✓ South Pole region
Instruments (Orbiter)	11 instruments for various studies	8 instruments for various studies
Instruments (Rover)	-	2 instruments on Pragyan Rover
Mission Status	Successfully completed in August 2009	Orbiter and Rover operational; Lander lost communication during descent

# Chandrayaan 03

It consists of Lander and Rover configuration.

It has been launched by LVM3 from SDSC SHAR, Sriharikota.

The propulsion module has a Spectro-polarimetry of Habitable Planet Earth (SHAPE) payload to study the spectral and Polari metric measurements of Earth from the lunar orbit.



# Chandrayaan 03

## 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 Spectroscope (LIBS) for deriving the elemental composition in the vicinity of landing site.





# KHAN GLOBAL STUDIES

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**THANKS FOR WATCHING**

