

## Prelim Bits 06-05-2024 | UPSC Daily Current Affairs

### Look-Out Circular (LOC)

*The Bombay High Court has held that public sector banks (PSBs) cannot recommend or request the issuance of Look out Circulars (LOCs) against loan defaulters.*

- **Issue** - A 2018 clause that empowered the head of all Public Sector Banks (PSBs) to request immigration authorities to issue LOCs against default borrowers in the economic interest of India.

*The default borrowers included not only the borrowers but also the guarantors for repayment of loans, and the principal officers or directors of corporate entities in debt.*

- **Observations of High Court** - It quashed LOCs issued to restrain PSB debtors from travelling abroad.
- It says that they are "strong-arm tactics" used to get around legal processes, and violative of fundamental rights guaranteed under Articles 14 and 21 of the Constitution.

***Article 14** deals with 'Equality before law or equal protection of the laws within the territory of India' and **article 21** deals with 'Protection of life and personal liberty'.*

- The fundamental right to travel abroad cannot be curtailed by executive action without any government statute and inclusion of only PSBs violates right to equality.
- It also clarified that its order would not affect any existing restraint order issued by a competent authority, court, Debt Recovery Tribunal, or investigative or enforcement agency.

### Look out circular (LOC)

- **Need** - To make sure that an individual who is absconding or wanted by law enforcement agencies is not able to leave the country.
- It is mostly used at immigration checkpoints at international airports and seaports by the immigration branch.
- **Issuing authority** - By a large number of authorised officers
  - An officer not below the rank of deputy secretary
  - An officer not below the rank of joint secretary in the state government
  - A district magistrate or superintendent of police

- Designated officers of various law enforcing agencies
- A designated officer of Interpol
- An officer not below the rank of additional director in the Serious Fraud Investigation Office, and the Ministry of Corporate Affairs.
- An officer not below the rank of chairman/managing director/chief executive of any public sector bank can make a request (currently quashed by Bombay HC)
- It can be *modified/deleted/withdrawn by the Bureau of Immigration only* on the specific request of the authorised originator on whose request the LOC was issued.
- **Actions** - It can seek to merely *stop a person from travelling* outside the country or from entering the country.
- It can also contains a request to *detain the individual at the local police/investigation agency*, which generally leads to arrest.

## References

1. [The Indian Express| Court quashes down LOCs by PSBs](#)
2. [The Indian Express| Look Out Circulars](#)

## Nepal currency notes

Recently, Nepal announced the printing of a new Rs 100 currency note with a map that shows the controversial territories of Lipulekh, Limpiyadhura and Kalapani.

- **Bone of contention** - Territorial dispute over ***Lipulekh, Kalapani and Limpiyadhura***, together cover about 370 sq km.
- India claims to own these 3 areas.
- [Nepal's territorial dispute with India](#) over Lipulekh came to the limelight in 2015 when India and China agreed to develop the region for trade and transit.
- In 2020, Nepal updated its political map by incorporating these three areas.



- **Lipulekh pass** - It is a strip of land on the northwestern edge of Nepal, lodged between Nepal, India, and Tibet.

- It connects the Indian state of Uttarakhand with the Tibet region of China and is a far western point near Kalapani.
- **Kalapani** - It is at the tri-junction between India, China, and Nepal.

### Development Activities in Lipulekh

- In 2020, India inaugurated the 80km road to facilitate pilgrims visiting Kailash-Mansarovar in Tibet in China, which is around 90km from the Lipulekh pass.
- It will be the 1<sup>st</sup> to provide connectivity to the Indian troops deployed on the Line of Actual Control with China in Uttarakhand.
- The road originates from Ghatiabgarh and terminates at Lipulekh Pass, the gateway to Kailash-Mansarovar.

*Nepal shares a border of over 1,850 km with 5 Indian states Sikkim, West Bengal, Bihar, Uttar Pradesh and Uttarakhand.*

### References

1. [The Indian Express| Nepal currency note to have Indian territories](#)
2. [Eurasian Times| Indo-Nepal Border Dispute](#)

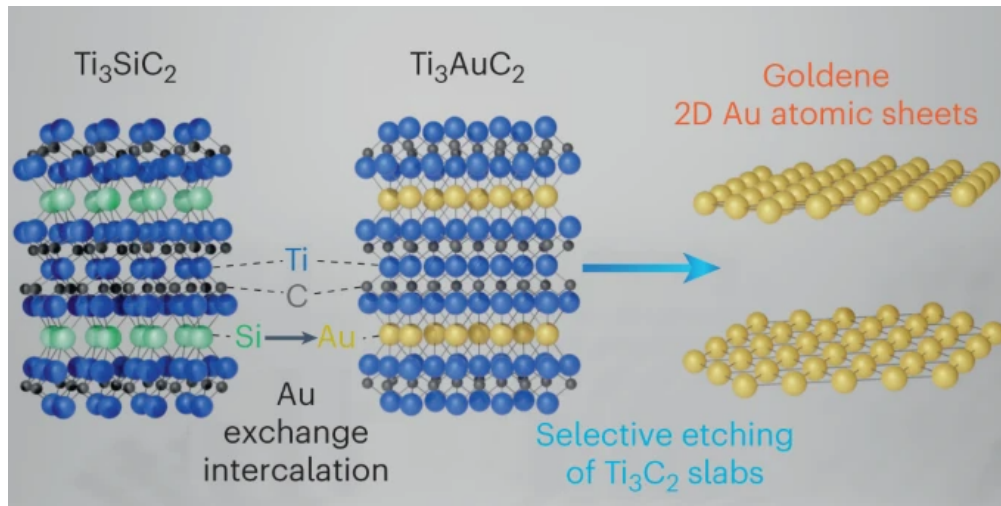
### GOLDENE

*Sweden's Linköping University involves in development of goldene.*

- **GOLDENE** - A **sheet of gold that is only one atom thick**.

*Since the 2004 development of graphene, the atom-thin material made of carbon, scientists have identified hundreds of 2D materials.*

- **Technical difficulties** - Due to metals' tendency to cluster together to make nanoparticles.
- **Manufacturing** - The following steps were done to create goldene
- An atomic monolayer of silicon was sandwiched between layers of titanium carbide.
- Gold were deposited on top of this sandwich structure, thus gold atoms diffused into the material and replaced the silicon atoms, forming a trapped monolayer of gold atoms.
- Subsequently, the titanium carbide layers were etched away to create a free-standing, one atom thick layer of gold.
- **Technique used** - A Japanese technique used to forge katanas (Knives), using a chemical popularly known as Murakami's reagent.



- **Properties** - These sheets are roughly 100 nanometres (nm) thick (nm - A billionth of a metre), approximately 400 times thinner than the thinnest commercially available gold leaf.
- Each gold atom in 2-Dimensional form has only 6 neighbouring atoms, compared to 12 in a 3-dimensional crystal.
- **Potential applications** - This *super thin, super light* material can revolutionise the electronics industry, which use gold for its *electrical conductivity*.
- It can potentially use lesser amounts for the same purpose.
- **Future applications** - In carbon dioxide conversion, hydrogen-generating catalysis, selective production of value-added chemicals, hydrogen production, water purification, etc.
- **Significance** - While gold sheets sandwiched between other materials have been previously produced, goldene is the 1<sup>st</sup> free-standing 2D metal that is only one atom thick
- It's much more economically viable than thicker 3D gold.

*Gold the 1<sup>st</sup> metal to be formulated into (freestanding) 2D sheets. Scientist are also working to make 2D sheets of iridium and platinum.*

## References

1. [The Indian Express| Development of Goldene](#)
2. [The Nature| Synthesis of Goldene](#)

## Boeing's Starliner

*A team of 2 astronauts sitting inside a crew capsule called Starliner is scheduled to be launched on 7<sup>th</sup> May 2024.*

- **Starliner** - It is a spacecraft more than 4 m wide and can house up to 7 astronauts.
- **Built by** - Boeing, global aerospace company.
- **Launch by** - Atlas V rocket, operated by United Launch Alliance, a joint venture

between Boeing and Lockheed Martin.

- **Crew capsule** - It houses the astronauts which will be able to survive re-entry and return to the ground.
- **2 crew members** - Astronauts *Barry Wilmore and Sunita Williams*.
- **Service module** - It provides *air and temperature control, water supply, sanitation*, etc., for the survival of astronauts plus the engines and fuel required to manoeuvre the spacecraft.
- This module won't be reusable.
- **Mission** - It will carry the astronauts *to the International Space Station (ISS)* in low earth orbit, where the duo will stay *for 8 days*.
- The capsule will return and descend to the ground, probably at a location in New Mexico.
- **Significance** - It is capsule's 3<sup>rd</sup> test flight and the 1<sup>st</sup> with astronauts on board.
- If successful, U.S. will for the *1<sup>st</sup> time in its history have 2 spacecraft (SpaceX and Boeing) to launch astronauts* to space.

*NASA shut its Space Shuttle programme in 2011 and before SpaceX's Dragon capsule got ready in 2020. Each crew's expedition lasts up to 6 months, until the ISS is decommissioned next decade.*

## Reference

[The Hindu| Boeing Starliner's first Space Crew Mission](#)

## Swell Waves

*The Indian National Centre for Ocean Information Services (INCOIS) had forecasted Swell waves likely to hit several coastal areas in India over the weekend.*

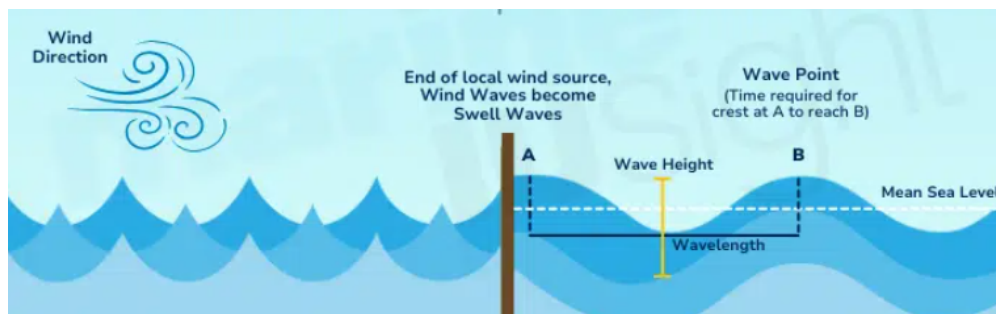
- **Forecast** - It may hit the coastal areas of Goa, Maharashtra, West Bengal, Odisha, Tamil Nadu, Kerala, Lakshadweep, Karnataka, Gujarat, and Andaman & Nicobar Islands.

*To forecast swell waves, INCOIS launched the **Swell Surge Forecast System** in 2020 which can give forewarning seven days in advance.*

- **Swell Waves** - It is a *series of Ocean surface waves* that propagate along the interface between water and air and are often referred to as **surface gravity waves**.
- They are formed by an ocean swell, hence the name swell surge.
- **Formation** - Swells (series of waves) are generated over the open ocean **by a distant storms** like hurricanes, or even long periods of fierce gale winds and *not by any local wind*.
- During such storms, huge *energy transfer takes place from the air into the water*, leading to the formation of very high waves.

- Many ocean swells originate in the oceans around Antarctica where there is high winds with nearly infinite duration and fetch.

Wind Waves	Swell Waves
<ul style="list-style-type: none"> <li>• Generated by <i>local wind</i>.</li> <li>• It tend to be <i>irregular</i>.</li> <li>• They are <i>not self-sustaining</i> and will die out when the wind stops.</li> <li>• Relatively <i>lesser speed</i> and cover <i>lesser distances</i>.</li> </ul>	<ul style="list-style-type: none"> <li>• Generated by <i>distant storms</i>.</li> <li>• <i>Regular</i> series of waves.</li> <li>• They are <i>self-sustaining</i>.</li> <li>• Larger wavelength and period.</li> <li>• <i>Travels faster</i> than small waves and travels <i>greater distances</i>.</li> </ul>



- **Impacts over India** - Usually, states like *Kerala witness swell waves as a result of strong winds in the southern part of the Indian Ocean*, where an ocean swell is generated, and the waves then travel north to reach the coast in 2 or 3 days.
- **2024 swell waves of Kerala** - They were generated after a low atmospheric pressure system moved over the region from the South Atlantic Ocean — 10,000 kilometres off the Indian coast.
- It resulted in strong winds, forms swell waves of up to 11 metres in height.

*The swell waves flooding events are called Kallakkadal in Kerala.*

### Features of Tsunamis in comparison with Swell Waves

- Unlike Swell waves, it is *created by an underwater disturbance* like earthquakes occurring below or near the ocean.
- They are around *10 times faster than swell waves*.
- Although both swell waves and tsunamis slow down near the coast, the latter *hit land at 30-50 km/h*.

### Reference

[The Indian Express| Swell Waves may hit Indian coastal areas](#)



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