

## Prelim Bits 04-04-2024 | UPSC Daily Current Affairs

### Purana Qila

*The Archaeological Survey of India (ASI) has planned to further excavate the Purana Qila site near the Kunti temple.*

- **About** - It is one of the **oldest forts in Delhi** located on the banks of **Yamuna river**.
- The fort is popularly known as **Indraprastha or Pandavon ka Qila or Old fort**.
- **Literacy evidence**- The fort was mentioned by the Greek traveler Megasthenes in the 4th century BCE as one of the seven cities of Delhi.
- **Built by** - The present citadel at Purana Qila was believed to have been built by the 2<sup>nd</sup> Mughal Emperor Humayun and was completed by Afghan Sher Shah Suri.
- The fort was the inner citadel of the **city of Din Panah** during Humayun's rule.
- The Qila was inspired by **Jama Masjid**, which was established 15 years before the reconstruction of Qila.
- **Architecture** - Purana Qila is roughly rectangular in shape having a circuit of walls built using **red sandstone**.
- It was surrounded by a wide moat (deep trench) connected to river Yamuna, which used to flow on the east of the fort.
- **Gateways**

<b>Bada Darwaza (Large Gate)</b>	• It is tucked between two massive, curving bastions made of rubble masonry.
<b>Forbidden / North gateway (Talaqui darwaza)</b>	• It typically combines Islamic pointed arch with Hindu Chhatris and brackets.
<b>Southern gateway (Purana Qila, Humayun Darwaza)</b>	• It had a similar plan like northern gateway.

- All of the gates are double-storeyed and comprise of huge semi-circular bastions flanking either of their sides.
- The ornate detailing on the pavilions (chhatris) and balconies (jharokhas)

of the fort gateways display traces of **Rajasthani style**.

- The Qila-i-Kunha Mosque situated within the fort exhibits 5 doorways and is designed in the **Indo-Islamic architectural style**.
- Sher Mandal is situated within the fort, it is an octagonal tower built by Humayun as an observatory and library.
- It is designated as a **UNESCO World Heritage Site** in 1993.

#### • **Excavation Findings**

- **Kushan period** - Gold foil, ivory sealing, copper coins, a tortoise amulet .
- **Gupta period** - Copper wheel, Gajalakshmi plaque,
- **Sultanate period** - Ivory locket.
- **Sunga and Kushan period** - House structures with brick walls and clay floors.
- **Rajput period** - Guard cell and a post hole.



## References

1. [Times of India | Purana Qila](#)
2. [Thrillophilia | Purana-qila](#)
3. [DM southeast | Purana Qila](#)
4. [Delhi Tourism | Purana Quila](#)

## OptiDrop & C-CAMP

*The Centre for Cellular and Molecular Platforms (C-CAMP) in Bengaluru recently announced that it has developed a new platform to study single cells.*

## OptiDrop

- It is an innovative ***microfluidic chip-based platform*** that simplifies and reduces the cost of ***studying single cells*** encapsulated in droplets.
- **Developed by** - Centre for Cellular and Molecular Platforms (C-CAMP) and IIT, Madras.
- This research is supported by the Biotechnology Industry Research Council (BIRAC), the Department of Science and Technology (DST), and the Ministry of Human Resource Development (MHRD).
- It is a novel microfluidic chip-based platform allows for optical sensing of biological samples whereas traditional flow cytometers, used for fluorophore-based biomarker detection.

*Flow cytometry is a laser-based technology that analyzes the characteristics of cells or particles.*

- **Working** - Each droplet flows through the microfluidic channel lit by an incident beam, light is scattered from its surface and contents.
- The platform detects fluorescent signals associated with the individual droplet.
- The output or signals are captured, processed and read live through an in-house developed software.
- **Applications** - Diagnostics, therapeutics, agriculture, and animal health.
- **Unique feature**- The platform include live data visualisation, a smaller data footprint, and a 'closed' system design that prevents external contamination, making it a viable benchtop technology for broad clinical applications.

## Centre for Cellular and Molecular Platforms (C-CAMP)

- C-CAMP is a non-profit organization that supports research and innovation in the life sciences.
- It is one of the India's premier biosciences research and innovation hub.
- **Ministry** - Department of Biotechnology, Ministry of Science, Technology and Earth Sciences.
- **Established in** - 2009.
- **Headquarters** - Bengaluru, Karnataka.

## References

1. [The Indian Express | C-CAMP, OptiDrop](#)

2. [The Hindu | OptiDrop platform](#)
3. [Times of India | C-CAMP develops new affordable platform](#)

## **Mauve stinger or purple-striped jellyfish**

*A Venomous jellyfish blooms recently spotted along Visakhapatnam coast in Andhra Pradesh.*

- It is a toxic jellyfish that has a powerful sting which causes different degrees of illnesses and can be life-threatening.
- **Scientific Name** - Pelagia noctiluca.
- **Appearance** - This jellyfish usually appears a bluey purple (mauve) colour with a globe shaped umbrella covered in orangey brown warts.



- **Distribution** - It is found worldwide in **tropical and warm-temperature seas.**
- **Habitat**- Pacific Ocean, North Atlantic Ocean, California and open oceans.
- **Life span**- These relatively fragile, easily damaged jellies probably live about a year or less.
- It is considered as one of the notorious bloom forming species in the world's oceans due to its wide distribution.

*A jellyfish bloom is when the population of the species increases dramatically within a short period of time, usually due to a higher reproduction rate.*

- **Uniqueness** - Unlike other jellyfish species, it has stingers not just on the tentacles, but on the bell too.
- **Luminescence** - These are bioluminescent, having an ability to produce

light in the dark.

- **Migration** - They participate in diel vertical migration, moving closer to the surface at night and deeper during the day.
- **Diet** - They are ***carnivorous***, preying on zooplankton, small fish, crustaceans, other jellyfish, and eggs.

Conservation status	
IUCN Red List Status	Not Evaluated
CITES status	
Convention on Migratory Species	

## References

1. [The Hindu | Venomous jellyfish blooms in Andhra Pradesh](#)
2. [Sea Life Bas | Pelagia-noctiluca](#)
3. [Inaturalist | Pelagia-noctiluca](#)

## Living Wills

*30 people in Thrissur, Kerala executed living wills recently.*

**Article 21** -Right to die with dignity.  
The Supreme Court allowed ***passive euthanasia since 2018.***

## Euthanasia

- Euthanasia refers to the practice of an individual ***deliberately ending their life***, oftentimes to get relief from an incurable condition, or intolerable pain and suffering.
- It can be ***administered only by a physician.***
- **Types**
  - **Active euthanasia** - It involves an active intervention to end a person's life with substances or external force, such as administering a lethal injection.
  - **Passive euthanasia** - It refers to withdrawing life support or treatment that is essential to keep a terminally ill person alive or 'passive'.
- In case a person does not have a living will, members of their family can make a plea before the High Court to seek permission for passive



euthanasia.

- It was strengthened with the concept of 'Advance Medical Directives' (AMD) or 'living will'.
- **Living will** - It is a legal document that allows patients who are no longer able to take medical decisions, to give instructions in advance concerning their medical treatment (Passive Euthanasia).
- Making a living will does not automatically imply that it will be given effect.
- Living wills have to be signed in the presence of two witnesses, attested before a notary or a gazetted officer, and handed over to a "competent officer" in the local government.
- If the patient becomes terminally ill and does not have decision-making capacity, the treating doctor is to authenticate the living will against the copy held with the custodian.
- The guidelines require that the decisions on withholding or withdrawing treatment are certified first by a primary medical board and then confirmed by a secondary medical board.
- The secondary board must have a doctor nominated by the ***chief medical officer***.
- However, local governments have not generally designated custodians for living wills, nor are they likely to.
- **Regular will**- A normal will is a last will and testament which is a formal, legal declaration of the intention of individuals with respect to their property which they desire to be carried into effect after their death—strict formalities apply to its execution and implementation.

## References

1. [The Hindu | Living wills implementation lags in India](#)
2. [Live Law | Right to Die](#)

## Types of Startups

- **Startup** - In India, a startup is an entity that is incorporated or registered in India not prior to 5 years, with an annual turnover not exceeding rupees 25 crore in any preceding financial year.
- It is an entity that works towards innovation, development, deployment or commercialization of new products, processes or services driven by technology or intellectual property.

<b>Types of Startups</b>	
<b>Minicorn</b>	<ul style="list-style-type: none"> <li>• Minicorns refer to startups which has a valuation <b><u>of \$1 million or more.</u></b></li> <li>• They are considered <b><u>less risky</u></b> and are new to the game.</li> </ul>
<b>Soonicorn</b>	<ul style="list-style-type: none"> <li>• A soonicorn is a startup which is expected to reach <b><u>unicorn status (\$1 billion) very soon.</u></b></li> <li>• It implies that the startup has gained a significant market share and is on a rapid growth trajectory.</li> <li>• However, they are <b><u>considered riskier</u></b> as they still have to face significant competition in the market than established unicorns.</li> </ul>
<b>Unicorn</b>	<ul style="list-style-type: none"> <li>• A Unicorn is a startup that has achieved a valuation of <b><u>\$1 billion but less than \$10 billion.</u></b></li> <li>• It is used to describe the exceptional growth and potential of the company.</li> <li>• Unicorn companies are often considered to be the <b><u>most valuable and innovative in the world.</u></b></li> </ul>
<b>Decacorn</b>	<ul style="list-style-type: none"> <li>• Decacorn is a startup that has a valuation of <b><u>\$10 billion or more.</u></b></li> <li>• Decacorns are companies which are highly valued and are often represented in <i>the elite category.</i></li> <li>• They are well-established, innovative and disruptive and have the strength to transform the industries in which they operate.</li> <li>• They face a lot of challenges as they continue to grow and scale.</li> </ul>
<b>Hectocorn</b>	<ul style="list-style-type: none"> <li>• Hectocorn is used to describe startups that have a valuation of <b><u>\$100 billion or more.</u></b></li> <li>• They have reached extraordinary levels of valuation and now represent an <i>elite group of companies.</i></li> <li>• Investing in hectacorn companies is rare but they are considered safe investments because of their reputation and strong financial resources.</li> </ul>

## Reference

1. [DNA India | Different 'corns' of the startup world](#)



**SHANKAR**  
**IAS PARLIAMENT**  
*Information is Empowering*