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 2nd 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 Quila 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**

Bada Darwaza (Large Gate)	• It is tucked between two massive, curving bastions made of rubble masonry.
Forbidden / North gateway (Talaqui darwaza)	• It typically combines Islamic pointed arch with Hindu Chhatris and brackets.
Southern gateway (Purana Quila, Humayun Darwaza)	• 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.

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.

Types of Startups	
Minicorn	• Minicorns refer to startups which has a valuation **_of $1 million or more._** • They are considered **_less risky_** and are new to the game.
Soonicorn	• A soonicorn is a startup which is expected to reach **_unicorn status ($1 billion) very soon._** • It implies that the startup has gained a significant market share and is on a rapid growth trajectory. • However, they are **_considered riskier_** as they still have to face significant competition in the market than established unicorns.
Unicorn	• A Unicorn is a startup that has achieved a valuation of **_$1 billion but less than $10 billion._** • It is used to describe the exceptional growth and potential of the company. • Unicorn companies are often considered to be the **_most valuable and innovative in the world._**

Decacorn	• Decacorn is a startup that has a valuation of **_$10 billion or more._** • Decacorns are companies which are highly valued and are often represented in _the elite category._ • They are well-established, innovative and disruptive and have the strength to transform the industries in which they operate. • They face a lot of challenges as they continue to grow and scale.
Hectocorn	• Hectocorn is used to describe startups that have a valuation of **_$100 billion or more._** • They have reached extraordinary levels of valuation and now represent an _elite group of companies._ • Investing in hectacorn companies is rare but they are considered safe investments because of their reputation and strong financial resources.

Reference

1. DNA India | Different 'corns' of the startup world

SHANKAR
IAS PARLIAMENT
Information is Empowering