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Capillary Action

NASA has come up with a space cup that will help astronauts drink liquids just like we do here on Earth.

- **Liquid under zero gravity** - In a near zero-gravity environment, like on the International Space Station, liquids behave very differently.
- The lack of gravity causes them to float around in blobs that are difficult to handle.
- They do not really settle down into cups and makes it very difficult to drink.
- **NASA's Capillary Cup** - NASA has designed a super cup to drink liquids in space for astronauts.
- The cup functions based on combination of surface tension, wetting and cup geometry to keep the liquids in place.
- The porcelain ceramic version of the cup was designed on the International Space Station.
- It is the first patented product invented in orbit.



- **Capillary action** - It is the movement or flow of liquid through a narrow tube using surface tension.
- It occurs when the adhesion between liquid and solid is greater than the cohesion of the fluid.
- The narrower the tube, the capillary action is also more.



References

1. IE - NASA's space cup: Drinking coffee in zero-gravity effortless

Shetland Sanctuary

Shetland sanctuary in Scotland fights to save seals as pollution takes toll.

- **Shetland** - Shetland Island is an archipelago in Scotland.
- It is known for its rugged coastlines, dramatic cliffs and diverse wildlife.
- It is an important habitats for common or harbour seals, grey seals and otters.
- **Sanctuary** - The Hillswick Wildlife Sanctuary was founded in 1987 at Shetland.
- Hillswick is a village north of Shetland's main town, Lerwick.
- It is the only sanctuary on Shetland.
- The sanctuary involves in rescuing and rehabilitating sick, injured and abandoned seals and otters and release them back into the wild.

References

1. The Hindu - Shetland sanctuary fights to save seals
2. Hillswick Wildlife Sanctuary

Antiquity and Its Legal Protection

An investigation has found that the catalogue of the Metropolitan Museum of Art, New York, includes at least 77 items with links to Subhash Kapoor, an antiquities' smuggler.

- **National** - The Constitution deals with the country's heritage in all 3 federal lists -
    1. Union List - Item-67
    2. State List - Item-12
    3. Concurrent List - Item-40
- **Before Independence** - Antiquities (Export Control) Act, 1947 (April) ensured that no antiquity could be exported without license.
- **After Independence** - The Ancient Monuments and Archaeological Sites and Remains Act was enacted in 1958 for their protection.
- The Antiquities and Art Treasures Act, 1972 was implemented on April 1, 1976.
- It aims to regulate the export trade in antiquities and art treasures, prevent smuggling of, and fraudulent dealings in, antiquities.
- The act defined 'antiquity' as articles that has been in existence for not less than 100 years which includes,
    1. any coin, sculpture, painting, epigraph or other work of art or craftsmanship;
    2. any article, object or thing detached from a building or cave;
    3. any article, object or thing illustrative of science, art, crafts, literature, religion, customs, morals or politics in bygone ages;
    4. any article, object or thing of historical interest.
- Any manuscript, record or other document which is of scientific, historical, literary or aesthetic value in existence of not less than 75 years.
- **Sale and export** - Only the Central Government or any authority or agency authorised by the Central Government in this behalf can export or trade any antiquity or art treasure.
- **Possession** - Under this act, every person who owns, controls or is in possession of any antiquity should register such antiquity and obtain a certificate.
- Provenance of antiquity is the list of all owners from the time the object left its maker's possession to the time it was acquired by the current owner.
- **National Mission on Monuments and Antiquities** - The mission launched in 2007, mandates preparation of a database of the Indian antiquities.
- Archaeological Survey of India (ASI) is the nodal agency for implementation of activities under NMMA.
- **International** - The UNESCO defines 'Cultural property' as the property designated by countries having importance for archaeology, prehistory, history, literature, art or science.
- It is under 1970 Convention on the Means of Prohibiting and Preventing the Illicit Import, Export and Transfer of Ownership of Cultural Property.

References

1. IE - What Indian, international laws say about Antiquities abroad
2. National Mission on Monuments and Antiquities

Collective Security Treaty Organisation

Armenia's Prime Minister accused that Collective Security Treaty Organisation (CSTO) failed to protect Armenia amid a standoff with Azerbaijan over Nagorno-Karabakh.

- To know more about - The Azerbaijan-Armenia Conflict over Nagorno-Karabakh, click here.
- **CSTO** - The Collective Security Treaty Organization (CSTO) originates from the conclusion of the Collective Security Treaty, signed in Tashkent (Uzbekistan) in 1992 (an year after dissolving of Warsaw Pact).
- It is also known as the 'Tashkent Pact' or 'Tashkent Treaty'.
- The Collective Security Treaty was signed by the heads of Armenia, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan.
- Later, it was joined by Azerbaijan, Belarus and Georgia (1993).
- The treaty entered into force on April 20, 1994.
- In 2002, it became a full-blown military alliance.
- In 2004, the Organization received an Observer status in the UN General Assembly.
- **Members of the CSTO** – There are 6 - Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia and Tajikistan.
- Azerbaijan, Georgia and Uzbekistan ceased its membership.
- **Headquarters** - CSTO is headquartered in Moscow.
- **Article 4 of CSTO** - The Article 4 of CSTO is very similar to NATO's Article 5.
- It states "If one of the States Parties is subjected to aggression by any state or group of states, then this will be considered as aggression against all States Parties to this Treaty."
- **Structure** - Collective Security Council is the supreme body of the organisation.
- It has these consultative and executive bodies -
    1. CSTO permanent councils
    2. The council of Ministers of Defence
    3. The council of Ministers of Foreign Affairs
    4. The committee of secretaries of the Security councils

References

1. The Hindu - Armenian PM critical of CSTO security pact
2. Collective Security Treaty Organisation

Komaram Bheem and Alluri Sitharama Raju

The Telugu movie 'RRR' was inspired by the lives of Indian freedom fighters Alluri Sitharama Raju and Komaram Bheem.

- Both Alluri Sitharama Raju and Komaram Bheem were 20th-century revolutionaries who led tribal people in present-day Andhra Pradesh against the British and the Nizams.

Alluri Sitharama Raju

- Raju is believed to have been born on 04 July 1897, in a village called Mogallu near Bhimavaram in Andhra Pradesh.
- By the age of 18, he became a sanyasi renouncing all worldly pleasures and mingled with the local tribal community.
- These tribes followed the ***'Podu' system*** of cultivation, whereby every year some amounts of forest tracts were cleared for cultivation.
- The Madras Forest Act of 1882 banned the collection of minor forest produce and tribal people were forced into labour by the colonial government.
- It restricted the free movement of the tribal communities and prohibiting them from engaging in Podu agricultural system.
- This oppressive order was the beginning of the tribal revolt, also known as the ***Manyam Rebellion***.
- In August 1922, he launched the ***Rampa Rebellion*** against the British.
- He used guerrilla warfare along with his army of tribal people to fight against the British.
- However, on 07 May 1924, he was treacherously trapped, tied to a tree, and shot dead.
- He was honoured for his valour and fiery spirit with the title, "Manyam Veerudu" (Hero of the Jungle).
- On his 125th birth anniversary our Prime Minister unveiled a 30-ft bronze statue of him at Bhimavaram, in the West Godavari district.

Komaram Bheem

- Komram Bheem was born on October 22, 1901, at Sankepally village in Asifabad.
- He hailed from the ***Gond tribal*** community.
- Bheem's family migrated to Sardapur village in Kerimeri mandal after his father's death.
- Nizam's government used to collect tax in the name of 'Bambram' and Dupapetti for grazing cattleand collecting firewood for cooking.
- He led a rebellion against the Nizams of Hyderabad opposing the taxes.
- The slogan ***'Jal, Jangal, Jameen'*** (water, forest, land) was given by Bheem to fight fortribal freedom and rights and oppose the taxes.
- Komaram Bheem died in the battle against the Nizam's army in Jodeghat forest.
- Asifabad district has been renamed as 'Komaram bheem District' since 2016.

References

1. IE - 'RRR' Oscars win: Inspirations of RRR
2. Indian Culture - Alluri Sitarama Raju
3. Azaadi ka Amrit Mahotsav - Komaram Bheem

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