

Carbon Dating

❖ Context

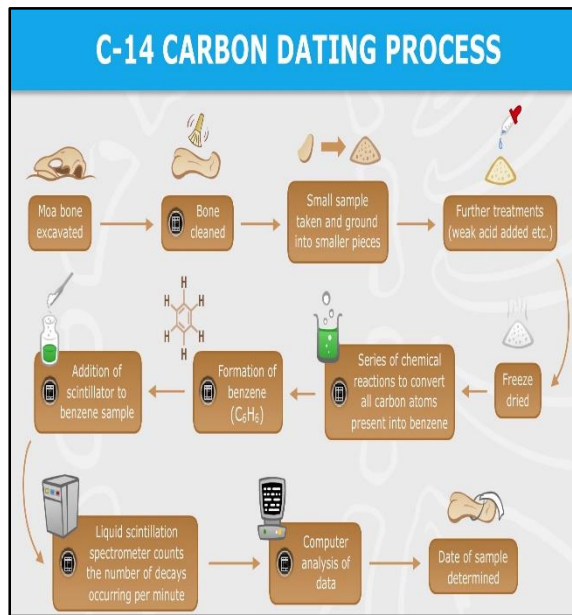
- Recently, the Allahabad High Court ordered a “**scientific survey**”, including carbon dating, of a “**Shivling**” said to have been found at the **Gyanvapi mosque** complex in Varanasi.

❖ About Carbon Dating:

- Carbon dating is a widely-used method to establish the age of organic materials, things that were once living.
- Living things have carbon in them in various forms.
- The dating method is based on the fact that **Carbon-14 (C-14)**, an isotope of carbon with an atomic mass of 14, is radioactive, and decays at a well known rate.

❖ This is how it works:

- The most abundant isotope of carbon in the atmosphere is **C-12**.
- A very small amount of C-14 is also present.
- The **ratio of C-12 to C-14** in the atmosphere is almost static, and is known.
- Plants get their carbon through photosynthesis; animals get it mainly through food.
- Because plants and animals get their carbon from the atmosphere, they too acquire C-12 and C-14 in roughly the same proportion as is available in the atmosphere.
- When they die, their interactions with the atmosphere stops.
- While C-12 is stable, the radioactive C-14 reduces to one half of itself in about 5,730 years — known as its ‘half-life’.
- The **changing ratio of C-12 to C-14 in the remains of a plant or animal after it dies can be measured**, and can be used to deduce the approximate time when the organism died.



❖ Limitations:

- It cannot be used to determine the age of non-living things like rocks, for example.
- Also, the age of things that are more than 40,000-50,000 years old cannot be arrived at through carbon dating.

- This is because after 8-10 cycles of half-lives, the amount of **C-14 becomes almost very small and is almost undetectable**.

❖ Radiometric Dating Methods:

- Instead of carbon, decays of other radioactive elements that might be present in the material become the basis for the dating method.
- Many of these involve elements with half-lives of billions of years, which enable scientists to reliably estimate the age of very old objects.
- Two commonly employed methods for dating rocks are **potassium-argon dating and uranium-thorium-lead dating**.
- The radioactive isotope of potassium decays into argon, and their ratios can give a clue about the age of rocks.
- Uranium & thorium have several radioactive isotopes, & all of them decay into the stable lead atom. The ratios of these elements present in the material can be measured and used to make estimates about age.

Electronic Voting Machines (EVMs)

❖ Context

- Recently, the **Election Commission of India (ECI)** denied claims of a political party spokesperson, who had said that Electronic Voting Machines (EVMs) from South Africa were being used for voting.



❖ Key Highlights

- The EC said it had “never sent EVMs to South Africa for use in their elections” and that it had **never imported EVMs from any country**.
- EVMs are produced indigenously by 2 PSUs viz. **Bharat Electronics Ltd., Bengaluru and Electronics Corporation of India Ltd., Hyderabad**.
- After the introduction of EVM machines in elections of India, many countries used EVM machines made in India in their elections, like Bhutan, Nepal and Namibia.

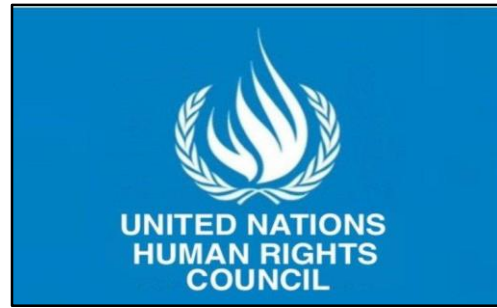
❖ About EVMs

- EVM has two parts – a ‘**control unit**’ and a ‘**balloting unit**’ – connected by a 5-metre cable.
- The **balloting unit** is in the voting compartment into which the voter enters to cast the vote by pressing the button against the name and symbol of the candidate of her choice.

- The control unit is with the EC-appointed polling officer.
- The **control unit** has been termed the EVM’s ‘brain’, as the balloting unit is turned on only after the polling officer presses the ‘Ballot’ button on it and the vote is then cast.
- The **Software Programme Code** is written in-house, by these two companies, not outsourced, and subjected to security procedures at factory level to maintain the highest levels of integrity.
- Each **ECI-EVM has a serial number** and the Election Commission by use of **EVM-tracking software** can find out from its database which machine is located where.

Face to Face Centres





United Nations Human Rights Council (UNHRC)

❖ Context

- Recently, the United Nation's top human rights body **adopted a resolution**.
- It drew attention to mounting **civilian deaths and rights abuses in Sudan** since a bloody conflict erupted between the African country's two top generals last month.

❖ Key Highlights:

- The violence in Sudan has so far killed more than 600 people, including civilians, and displaced hundreds of thousands.
- The fighting has also spread to other regions, namely the restive **Darfur province**.
- The resolution aims to further scrutinize human rights violations taking place in Sudan since April 15.

❖ About UNHRC:

- The Human Rights Council is an **inter-governmental body** within the United Nations system.
- It is **responsible for strengthening the promotion and protection of human rights** around the world.
- The Human Rights Council **replaced the former United Nations Commission on Human Rights (UNCHR)**.
- **Formation:**
 - It was **created by the UNGA on March 15, 2006**.
 - The body met in its first session from June 19-30, 2006.

- **Meetings** : UNHRC holds **no fewer than three regular sessions a year**, for a total of at least 10 weeks.
- **Membership:**
 - The Council is made up of **47 UN Member States**
 - They are **elected by the UNGA** through a direct and secret ballot.
 - Members serve for a period of **three years**.
 - **Not eligible for immediate re-election** after serving two consecutive terms.
- **Seats on the Council are distributed as follows:**
 - African States: 13 seats
 - Asia-Pacific States: 13 seats
 - Latin American and Caribbean States: 8 seats
 - Western European and other States: 7 seats
 - Eastern European States: 6 seats
- **Headquarter** : **Geneva, Switzerland**.

Agmark Registration Not Required

❖ Context

- The Food Safety and Standards Authority of India (FSSAI) has come out with a draft notification that proposes to do away with Agmark registration for **edible oils** sourced from multiple sources.



❖ Key Highlights:

- This would facilitate **ease of doing business** and reduce the multiplicity of laws that govern the food sector.
- For such edible oils, only an FSSAI licence will be enough and a separate Agmark registration won't be required.

❖ About AGMARK:

- AGMARK is a certification mark used in India to ensure **the quality and conformity of agricultural products**.
- It stands for "**Agmark Certification Scheme**" and is administered by the Directorate of Marketing and Inspection (DMI) under the **Ministry of Agriculture & Farmers' Welfare**.
- The AGMARK certification is **voluntary** and can be obtained by producers or manufacturers who meet the specified quality standards for various agricultural commodities such as grains, spices, fruits, vegetables, honey, and more.

- The certification ensures that the products bearing the AGMARK mark have **passed the prescribed quality tests** and conform to the relevant agricultural standards.
- The AGMARK certification process involves **inspection, sampling, and testing of the products by authorized personnel**.
- The products are evaluated based on factors such as **purity, quality, and safety**.
- Once a product meets the required standards, it is eligible to display the AGMARK mark, indicating its quality and authenticity to consumers.
- The **AGMARK mark provides** assurance to consumers regarding the quality and genuineness of agricultural products.
- It helps in preventing **adulteration and fraudulent practices** in the market.
- The mark also facilitates **fair trade practices** by providing a standardized benchmark for quality across different regions and markets in India.

Dip in Paddy Sowing

❖ Context

- The **Union Agriculture Ministry's** recent data shows a decrease of **1.91 lakh** hectares in the sowing of paddy in states other than **Punjab and Haryana** compared to the previous year.



Face to Face Centres



❖ **Key Highlights:**

- There is a marginal increase of **0.43 lakh hectares** in the cultivation of millets during the current Kharif season.
- The sowing of paddy covers approximately **27.89 lakh hectares**, with significant contributions from states such as **West Bengal, Telangana, Karnataka, Assam, Odisha, Maharashtra, Tamil Nadu, Andhra Pradesh, Gujarat, Kerala, Chhattisgarh, Bihar, and Jharkhand.**
- **Millets and coarse cereals** have also seen a marginal increase in cultivation.
- Gujarat, Uttar Pradesh, West Bengal, and Maharashtra are the major states contributing to this increase.

- **West Bengal, Gujarat, Uttar Pradesh, and Maharashtra** are the major states involved in oilseed cultivation.

❖ **About Kharif Season:**

- Kharif season, also known as the **monsoon season**, is an important agricultural season in India.
- It refers to the period of sowing and cultivation of crops that coincide with the onset of the **southwest monsoon rains.**
- The kharif season typically begins in **June and lasts until September.**
- **Crops grown: rice, maize, millets, and sorghum.**

Zimbabwe's Gold-Backed Digital Currency

❖ **Context**

- Zimbabwe has recently launched a gold-backed digital currency in an effort to **stabilize and strengthen** its currency.



❖ **Key Highlights:**

- The digital currency is tied to the value of gold, serving as a means of payment alongside the Zimbabwean dollar and bond notes.
- The government aims to address **excess liquidity** and restore confidence in the local currency through this initiative.
- Zimbabwe currently holds around **350 kg of gold reserves**, valued at approximately **\$22.80 million.**
- The government plans to increase these reserves to **\$100 million** to further support the digital currency with tangible assets.
- However, concerns have been raised about the effectiveness of the gold-backed digital currency.

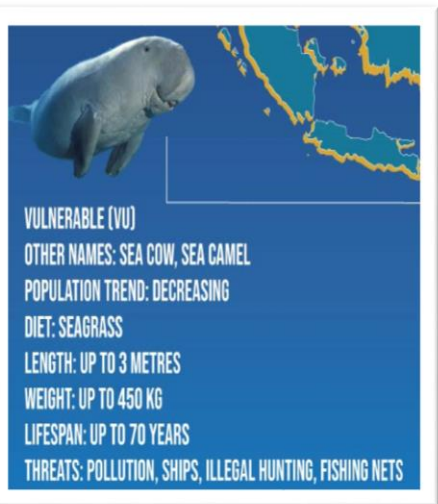
- The exchange rate of the Zimbabwean dollar against the US dollar on the black market is significantly devalued, with an exchange rate of more than **\$2,000 for \$1 US.**

❖ **Key Issues:**

- Experts believe that while the digital currency may stabilize the local unit and address excess liquidity, it may primarily **benefit the wealthy** and have limited impact on ordinary citizens facing extreme poverty.
- Zimbabwe ranks lowest in investment attractiveness among **62 nations** according to the **Fraser Institute's 2022 Annual Survey.**
- This highlights the challenges the country faces in **rebuilding trust** and attracting foreign investment.

News in Between the Lines

Dugong

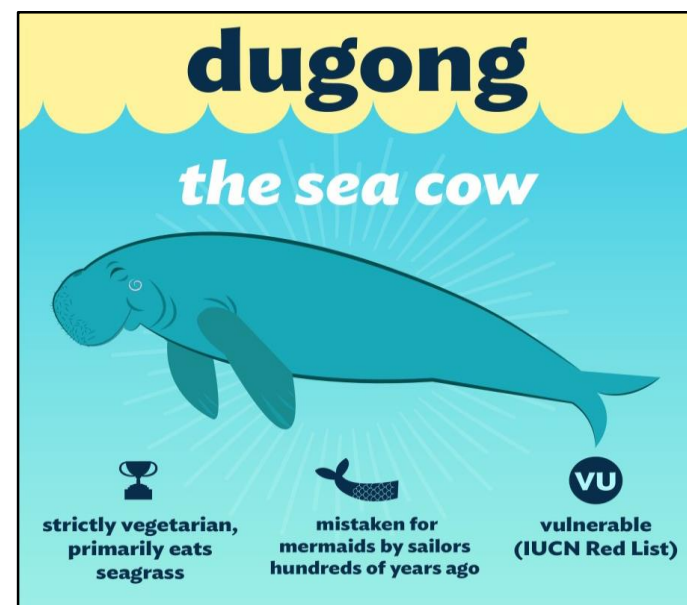


❖ **Context**

- Recently a group of fishermen in Tamil Nadu rescued and released a young Dugong that had been caught accidentally in their fishing net.

❖ **About Dugong:**

- Scientific Name: Dugong dugon.
- It is also **known as sea cow.**
- Dugong is a sea mammal and the **only living species of the order Sirenia.**
- It is a herbivorous mammal.
- Dugongs have a **distinct dolphin-like tail, a different skull form, and teeth pattern.**
- Its closest relative, Steller's Sea cow, was hunted to extinction in the eighteenth century.
- **Habitat** : Distributed in shallow tropical waters in the **Indo-Pacific region**, in India, they are found in the **Gulf of Kutch, Gulf of Mannar, Palk Bay, and Andaman & Nicobar Islands.**
- **Threat** : Habitat loss, sea pollution, and loss of seagrass.
- **Conservation Status:**
 - **IUCN Red List** – Vulnerable.
 - **WPA 1972-** Schedule I.
 - **CITES** - Appendix I.



Face to Face Centres

MPox



❖ Context


- The World Health Organization has said recently that the global outbreak of mpox (Monkey Pox) is no longer an **international emergency**, after a dramatic drop in cases.

❖ About Monkey Pox:


- Monkeypox is a viral disease that affects both humans and animals.
- It belongs to the same family of viruses as **smallpox** and is primarily found in **Central and West African countries**.

What is it?


Monkeypox is a rare disease caused by infection from the **monkeypox virus**. It is characterized by the following symptoms:




Swollen Lymph Nodes
This is a key symptom that distinguishes monkeypox from other pox diseases.




Muscle Aches



Fever



Headache



Rash
Within 1-3 days after fever, monkeypox is characterized by a rash of pustules that begin on the face and spread to other regions of the body.

Where does it come from?

Monkeypox is found in the rainforests of **West and Central Africa**. Consequently, two main strains of the virus exist, one originating from each region.

- The virus is a member of the **Poxviridae family** which is genetically similar to other poxviruses.
- Monkeypox is caused by the monkeypox virus, which can be transmitted to humans through direct contact with **infected animals**, such as rodents and monkeys, or through contact with bodily fluids or contaminated materials.
- Human-to-human transmission of monkeypox is possible but relatively rare.
- Currently, there is no approved anti-viral treatment for the disease.

Baobab Trees



❖ Context

- The Madhya Pradesh government has decided that the forest department cannot give permission to translocate Dhar's famed Baobab trees.

❖ Key Highlights:

- Baobab trees are unique and iconic trees found in various parts of Africa, including countries like Madagascar, Senegal, Tanzania, and Botswana.
- These trees belong to the genus *Adansonia*.
- Baobabs are among the longest-living trees in the world, with some specimens estimated to be over a thousand years old.
- They can grow to impressive heights, often reaching 20-30 meters (65-98 feet) tall.
- Conservation Status: Several species of Baobab trees are listed as endangered.
- The fruit, known as "monkey bread," is edible and highly nutritious, rich in vitamin C, antioxidants, and other beneficial compounds.

New GST Compliance Measures



❖ Context

- Recently, government introduced new GST compliance measures.

❖ Key Highlights:

- The government has decided to **lower the threshold for businesses to generate e-invoice for business-to-business (B2B) transactions, from Rs 10 crore to Rs 5 crore**.
 - The changes will come into effect from August 1.
 - At present, businesses with turnover of Rs 10 crore and above are required to generate e-invoice for all B2B transactions.
 - E-invoicing was initially implemented for large companies with turnover of over Rs 500 crore, and within three years the threshold has now been lowered to Rs 5 crore.
- It has rolled out the **automated return scrutiny module for GST returns** in a backend application for central tax officers.
 - This will enable the officers to scrutinise GST returns of centre-administered taxpayers selected on the basis of data analytics and risks identified by the system.
- **Significance:**
 - Amid rising instances of GST frauds and cases of fake invoices, these changes are expected to broaden the compliance mandate for more businesses, especially small and medium enterprises and also help boost the GST revenue collections.

MCQ Quiz

[Daily Current Affairs](#)
[Daily Pre PARE Daily](#)

Face to Face Centres