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Sao Joao Festival

Catholics in Goa are celebrating the annual Sao Joao festival, which is a feast of St John the Baptist.

> St John is the Baptist because he had baptised Jesus Christ on the river Jordan.

- Sao Joao Festival is celebrated in Goa **every monsoon** on June 24th.
- Siolim Village in North Goa is the epicenter of the Sao Joao Festival.
- The Sao Joao Festival is dedicated to **St. John the Baptist.**
- The major draw of the feast is the water bodies - wells, ponds, fountains, rivers, rivulets - in which the revellers take the leap of joy.
- Jumping into the water bodies **commemorates the leap of joy took by St John** in the womb of his mother St Elizabeth, when Virgin Mary told Elizabeth about the birth of Christ.
- The festival also includes
    1. Wearing the *Kopel* (crowns made of fruits, flowers and leaves),
    2. Playing the traditional musical instruments like the *gumott* (percussion instrument) and *cansaim* (cymbal);
    3. Sao Joao boat festival (started in 1992) held in front of St Anthony's Church in the Siolim village;
    4. Servings of feni (a spirit produced exclusively in Goa); and
    5. A place of pride for new sons-in-law.
- **Sangodd** - In the North Goa's coastal belt, *sangodd* is celebrated as a part of the feast of St John the Baptist.
- Two boats are tied together to make a *sangodd*, which means union, unity and junction. Tying of the boat signifies the unity of the village.

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Open Network for Digital Commerce

The Union Commerce Minister chairs the Open Network for Digital Commerce (ONDC) Advisory Council Meeting.

> The government has constituted an advisory council to analyze the potential of ONDC as a concept and to advise the government on measures needed to accelerate its adoption.

- The Open Network for Digital Commerce (ONDC) is a not-for-profit organisation.

- It is an initiative of the Department for Promotion of Industry and Internal Trade (**DPIIT**), under Ministry of Commerce and Industries.
- The ONDC is a **network based on open protocol** that will enable local digital commerce stores across industries to be discovered and engaged by any network-enabled applications.
- It is neither an aggregator application nor a hosting platform.
- All existing digital commerce applications and platforms can **voluntarily choose** to adopt and be a part of the ONDC network.
- In this system, the ONDC plans to enable sellers and buyers to be digitally visible and transact through a single network, regardless of what e-commerce platform or application they use.
- **ONDC Model** - The ONDC model is trying to replicate the success of the Unified Payments Interface (UPI) in the field of digital payments.
- The UPI allows people to send or receive money irrespective of the payment platforms they are registered on.
- Under ONDC, it is envisaged that a buyer registered on one participating e-commerce site (for example, Amazon) may purchase goods from a seller on another participating e-commerce site (for example, Flipkart).
- The open network concept also extends beyond the retail sector, to any digital commerce domains including wholesale, mobility, food delivery, logistics, travel, urban services, etc.

  Presently, ONDC is in its pilot stage in 5 cities - Delhi NCR, Bengaluru, Bhopal, Shillong and Coimbatore - with a target of onboarding around 150 retailers.

- The members of ONDC include Chairpersons of MNCs, NGOs, National Health Authority, NPCI, Quality Council of India and Capacity Building Commission, and Additional Secretary of DPIIT.
- The platform will be compliant with the Information Technology Act, 2000 and designed for compliance with the emerging Personal Data Protection Bill.
- **Benefits -** The ONDC platform aims to create new opportunities, curb digital monopolies and by supporting micro, small and medium enterprises and small traders and help them get on online platforms.
- The ONDC will standardise operations like cataloguing, inventory management, order management and order fulfillment.
- Hence, the ONDC makes it simpler and easier for small businesses to be discoverable over network and conduct business.

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Thiomargarita magnifica

Scientists have discovered the world's largest bacterium in the archipelago of Guadeloupe, a Caribbean mangrove swamp.

- This bacterium is named as Thiomargarita magnifica, or “magnificent sulfur pearl”.
- It is a thin white filament, approximately the size of a human eyelash.
- First found in the archipelago of Guadeloupe (2009), these bacteria, on average, reach a

length of a third of an inch (0.9 cm).
- They attach themselves to oyster shells, rocks and glass bottles in the swamp.
- One key difference it has from other bacteria is that it has a **large vacuole**, that allows some cell functions to happen in that controlled environment instead of throughout the cell.
- They have **DNA-filled sacs** that have inside them ribosomes (Protein production factories). This makes the translation of a gene's code into a protein more efficient.
- It is hypothesized that bacterium is so large as it may be an adaptation to help it avoid being eaten by smaller organisms.

Guadeloupe

- Guadeloupe is an archipelago in the **Lesser Antilles chain** of the eastern Caribbean Sea.
- It comes under the overseas department and region of **France**.
- **Tropical climate is tempered** by the northeast trade winds.
- The **warm waters** around the islands support a variety of marine life.



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Azooxanthellate Corals

For the first time, four species of azooxanthellate corals were recorded in Indian Waters (waters of Andaman and Nicobar Islands).

- **Discovery** - *Truncatoflabellum crassum*, *T. incrustatum*, *T. aculeatum*, and *T. irregulare* are the four species of azooxanthellate corals recorded.
- They are found in the **shallow water region** of Andaman and Nicobar Islands. These 4 coral species are from the same family Flabellidae.
- All these four species were previously found from Japan to the Philippines and Australian waters.
- Only *T. crassum* was reported within the range of Indo-West Pacific distribution including the Gulf of Aden and the Persian Gulf.
- **Azooxanthellate corals** - These corals are a group of **hard corals** that **do not contain zooxanthellae** - unicellular, golden-brown algae.
- They have a highly compressed skeletal structure.
- They are **non-reef-building solitary corals,** which are found in dark habitats, especially within caverns.
- They derive nourishment not from the sun but from capturing different forms of plankton.
- **Distribution** - Their distribution is not limited to the upper layer of ocean alone, but is known from the **tropical seas to polar seas** and from the **intertidal zone** to over 6,328 metres depth.
- These groups of corals are **deep-sea representatives**, with the majority of species reporting from between 200 m to 1000 m.

- Their occurrences are also reported from **shallow coastal waters**.
- Zooxanthellate corals, meanwhile, are restricted to shallow waters.

There are about 570 species of hard corals found in India and almost 90% of them are found in the waters surrounding Andaman and Nicobar Islands.

The pristine and oldest ecosystem of corals share less than 1% of the earth's surface but they provide a home to nearly 25% of marine life.

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Egg-in-egg Dinosaur Fossil

Researchers have discovered a set of fossilised titanosaurid dinosaur eggs, with one egg nesting within the other. This is India's first egg-in-egg fossil that was found from the Bagh area of Dhar district in Madhya Pradesh.

The Upper Cretaceous Lameta Formation of Central India is long known for its dinosaur fossils (both skeletal and egg remains).

- **Sauropod family** - Dinosaurs of the Sauropod family were among the largest land animals that have ever lived and were widespread millions of years ago in the Indian Territory.
- Fossils of these animals have been found in Gujarat, Madhya Pradesh and Meghalaya.
- **Finding** - The egg has two continuous and circular eggshell layers separated by a wide gap like that observed in birds.
- Until this discovery, no egg-in-egg fossil egg was found in dinosaurs and other reptiles such as turtles, lizards, and crocodiles.

While eggs-within-eggs are a rare phenomenon, they are so far known to occur only in birds and never known in reptiles.

- The discovery of eggs-within-eggs phenomenon in dinosaurs brings out newer **connections between reptilian and avian evolution**.
- **Connection** - It was believed that dinosaurs had a unsegmented reproductive tract similar to that of turtles and other reptiles (unsegmented oviduct).
- This is in contrast to segmented reproductive tract of crocodiles and birds with separate regions of membrane and shell deposition.
- Though crocodiles have separate regions of shell membrane and mineralised shell deposition, they ovulate and release all the eggs simultaneously like turtles and other reptiles.
- In birds, ovulation is sequenced and eggs are laid one at a time.
- The new discovery of an ovum-in-ovo egg, which characteristic of birds, in titanosaurids argues for

1. A segmented oviduct like in crocodiles and birds, and
2. A possible sequential egg-laying characteristic of birds.

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