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## Important Facts for Prelims (17th October 2018)

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### Oldest Evidence of Animal Life Found

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- Researchers have found the oldest clue of animal life in rocks from Oman, Siberia, and India.
- Research suggested that **sea sponges emerged as early as 660 million years ago**, during the Neoproterozoic Era (660-635 million years ago), which is at least 100 million years before the Cambrian Explosion.
- In ancient rocks and oils, **researchers found a steroid compound produced only by sponges, which are among the earliest forms of animal life.**
- **The “Cambrian Explosion” refers to the sudden appearance in the fossil record of complex animals with mineralized skeletal remains 541 million years ago.**
- The biomarker identified by scientists is a steroid compound named 26-methyl stigmastane (26-mes).
- It has a unique structure that is currently only known to be synthesized by certain species of modern sponges called demosponges.
- In September 2018, an international team of researchers claimed to have discovered the world’s oldest fossil—creature known as **Dickinsonia**, which first appeared around 571 million to 541 million years ago.
- Current fossil evidence dates back around 100 million years from **Dickinsonia**.
- Neither study provides traditional fossil evidence such as fossils containing the outlines of bones or soft tissue. Rather, these studies highlight the chemical traces left behind by ancient creatures.
- In the case of Dickinsonia, it was fat molecules; in the case of sea sponges, it’s a steroid compound known as a sterane
- **This finding could help scientists better understand the interaction of geology and biology that triggered the evolution of complex life on Earth.**

### Last Universal Common Ancestor (LUCA)

Charles Darwin proposed the existence of an evolutionary starting point and a primordial organism from which all modern life descended. This organism is termed as LUCA (Last universal common ancestor). Any fossil evidence of LUCA is yet to be discovered.

## Kolkata GPO marks 150 years

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- Recently Kolkata's General Post Office (GPO) completed its 150 years. The Heritage building with Corinthian columns was opened to the public on October 2, 1868.
- It is not only an iconic building of the city but also the biggest working post office of the Kolkata Circle.
- An extension of the postal museum, housed in the building has been inaugurated. The museum displayed an exhibition of illustrations depicting postmen carrying letters.
- Other exhibits in the museum include badges used by postmen, weighing machines and the first postage stamps, printed at the Survey of India office in 1854 and a Post Office Map of provinces of Bengal, Behar, and Orissa and Arracan dating back to 1854.
- It is still a matter of speculation whether the Old Fort, where the **GPO stands today is the site of the "Black Hole Tragedy" of 1756**. Researchers of the Archaeological Survey of India are working to ascertain whether this is a site of the alleged incident.
- **According to historians, the "Black Hole Tragedy" refers to the time when several English prisoners died as a result of incarceration in a cramped prison by Nawab of Bengal Siraj Ud-Daulah after he attacked Calcutta.**

## From Bihar to Assam via Bangladesh

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- Recently the cargo ship carrying fly ash on the pilot basis from Bihar reached its destination in Guwahati. This has rekindled hope for an inland waterway transport system that had virtually ended with Partition in 1947.
- This has been one of the biggest voyages in recent history covering 2,085 km from Kahalgaon in Bihar to Pandu in Guwahati.
- This voyage has demonstrated that the inland waterways, both National Waterway 1, or Ganga, and National Waterway 2, that is the Brahmaputra, are technically feasible for transportation of cargo ships of 1,500-2,000 tonnes through India-Bangladesh Protocol route.
- The voyage of the ships marked one of the longest hauls in the inland water sector movement in the country.

- Around Independence, Assam's per capita income was very high owing to access of its tea, timber, coal and oil industries to seaports via the Brahmaputra and Barak river systems. The scenario changed after the river routes were cut off and rail and road through the Chicken's Neck (a narrow strip in West Bengal), became costlier alternatives.

## **NASA's Chandra X-ray Observatory**

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- NASA's Chandra X-ray Observatory went into safe mode after a gyroscope problem. During safe mode, spacecraft's instruments are all turned off and only the most fundamental systems are kept on.
- Gyroscopes help spacecraft maintain proper orientation.

## **Chandra X- Ray Observatory**

- Launched: July 23, 1999
- Goal: Detect X-ray emission from very hot regions of the Universe such as exploded stars, clusters of galaxies, and matter around black holes.
- Chandra is part of NASA's Great Observatories Program, which launched four powerful space telescopes from 1990 to 2003:
  - The Hubble Space Telescope in 1990
  - The Compton Gamma Ray Observatory (CGRO) in 1991
  - The Spitzer Space Telescope in 2003
- CGRO was intentionally deorbited in 2000 after a gyroscope failure.
- Chandra is active well beyond the original design lifetime of 5 years. In 2001, NASA extended its lifetime to 10 years. It is now into its extended mission.

## **World Food Day**

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- Every year, World Food Day is celebrated on October 16 to commemorate the founding of the Food and Agriculture Organisation (FAO) of United Nations in the year 1945.
- This year's theme is 'Zero Hunger' which means working together to ensure everyone, everywhere, has access to the safe, healthy and nutritious food they need. To achieve it, we must adopt a more sustainable lifestyle, work with others, share our knowledge and be willing to help change the world – for the better.
- The Sustainable Development Goal (SDG-2) also aims to “End hunger, achieve food security and improved nutrition and promote sustainable agriculture” by 2030.

## **Roshni- Centre of Women Collectives led Social Action**

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- Deendayal Antyodaya Yojana – National Rural Livelihood Mission (DAY-NRLM), Ministry of Rural Development (MoRD) and Lady Irwin College have signed a Memorandum of Understanding (MoU) for establishing ROSHNI – Centre of Women Collectives led Social Action.
- ROSHNI is technically and financially supported by UNICEF India serving as a technical support unit at national level for DAY-NRLM and is embedded in the Department of Development Communication and Extension, Lady Irwin College, New Delhi.
- Roshni aims to work with women collectives for social action on Food, Health, Nutrition and WASH (FHNW) interventions in alignment with DAY-NRLM.
- Roshni will incorporate learnings from Swabhimaan and similar models, and extend support to DAY-NRLM for expanding the scope of FHNW interventions.
- The Centre will lead knowledge creation, capacity building for scale-up of convergent action plan, learning and re- learning in Swabhimaan sites and provide policy guidance to DAY-NRLM on POSHAN Abhiyan initiatives.

Swabhimaan is initiative of the Union Government and the Indian Banks' Association to bridge economic gap between rural and urban India. This campaign is a step towards socio-economic equality by bringing the underprivileged segments of Indian population into the formal banking fold.