Prelim Bits 23-05-2019

Brahmos Air Launched Missile

- Indian Air Force has successfully fired the BrahMos air version missile from its frontline Su-30 MKI fighter aircraft.
- The air launched BrahMos missile is a 2.5 ton supersonic air to surface cruise missile with ranges of close to 300 km, designed and developed by BAPL (The BrahMos Aerospace Limited, an Indo-Russia joint venture).
- The BrahMos missile provides Indian Air Force a much desired capability to strike from large stand-off ranges on any target at sea or on land with pinpoint accuracy by day or night and in all weather conditions.

RISAT-2B

- ISRO has launched RISAT-2B into space, RISAT-2B is a radar imaging earth observation satellite.
- India's Polar Satellite Launch Vehicle (PSLV-C46) has been used to launch the RISAT-2B.
- The satellite is intended to provide services in the field of Agriculture, Forestry and Disaster Management.
- It has been developed for military and general surveillance purposes.
- RISAT-2B is equipped with synthetic aperture radar that can take pictures of the earth during day and night, and also under cloudy conditions.

Coral Reefs

- Coral reefs are important hotspots of biodiversity in the ocean.
- Corals are animals in the same class (Cnidaria) as jellyfish and anemones.
- They consist of individual polyps that get together and build reefs.
- Coral reefs support a wide range of species and maintain the quality of the coastal biosphere.
- The ideal conditions for coral formation are as follows
- **Sunlight-** Corals need to grow in shallow water where sunlight can reach them.
- **Clear water -** Corals need clear water that lets sunlight through; they don't thrive well when the water is opaque.
- **Warm water temperature**- Reef-building corals require warm water conditions to survive, corals generally live in water temperatures of 68–90° F

or 20–32° C.

- **Clean water** - Corals are sensitive to pollution and sediments. Sediment can create cloudy water and be deposited on corals, blocking out the sun and harming the polyps.
- **Saltwater:** Corals need saltwater to survive and require a certain balance in the ratio of salt to water.
- This is why corals don't live in areas where rivers drain fresh water into the ocean ("estuaries").

Coral Bleaching

- Corals control the level of carbon dioxide in the water by converting it into a limestone shell.
- If this process does not take place, the amount of carbon dioxide in the ocean water would increase significantly and affect ecological niches.
- When the sea surface temperature increases beyond a tolerable limit, they undergo a process of bleaching.
- Basically bleaching is when the corals expel a certain algae known as zooxanthellae, which lives in the tissues of the coral in a symbiotic relationship.
- About 90% of the energy of the coral is provided by the zooxanthellae which are endowed with chlorophyll and other pigments.
- They are responsible for the yellow or reddish brown colours of the host coral.
- When a coral bleaches, it does not die but comes pretty close to it, some of the corals may survive the experience and recover once the sea surface temperature returns to normal levels.

Amaranthus

- New species of *Amaranthus saradhiana has been discovered in Kerala.*
- It is the first time that an Amaranthus species has been reported from Kerala.
- The species is endowed with high nutritional value, contributed by the rich presence of anthocyanin, a pigment which imparts the purple colour.
- The stem is hairy and purple in colour, the plant flowers and fruits during the period from June to December.

Source: PIB, the Hindu



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