UPSC Daily Current Affairs | Prelim bits 15-04-2020

Apollo 13 Mission

- The Apollo 13 mission was launched from the Kennedy Space Centre in Florida on April 11, 1970, aboard the Saturn V SA-508 rocket.
- Apollo 13 was NASA's seventh crewed mission in the Apollo space program and the third that was to land on the Moon.
- Apollo 11 and 12 – the previous two missions had landed on lunar maria, the dark patches on the near side of the Moon which provide comparatively easier landing abilities.
- Apollo 13 was supposed to make a more challenging landing near the Fra Mauro Carter.
- Two days into the mission, an explosion caused the oxygen tank in the service module to fail.
- After an hour, mission control had the lunar landing aborted, and announced an alternate mission in which Apollo 13 would swing around the Moon before returning to Earth.
- The crew then had to move to the lunar module and were forced to make a heroic emergency re-entry.
- After enduring gruelling conditions aboard the spacecraft, the astronauts were able to return to Earth, landing in the South Pacific Ocean.
- While Apollo 13 did not land on the lunar surface, it was able to return photographs that it took when it looped around the Moon.

Fra Mauro formation

- The Fra Mauro formation (or Fra Mauro Highlands) is a formation on the near side of Earth's Moon that served as the landing site for the American Apollo 14 mission in 1971.
- It is named after the 80-kilometer-diameter crater Fra Mauro, located within it.
- The formation, as well as Fra Mauro crater, take their names from a 15th-century Italian monk and mapmaker of the same name.
- Apollo 13 was originally scheduled to land in the Fra Mauro highlands, but was unable due to an in-flight technical failure.
- Fra Mauro is thought to have been formed from ejecta, or debris, from the

impact which formed Mare Imbrium basin.
- Conducting experiments at the Fra Mauro formation would have provided greater insights about the Moon and the Earth's early geological history.

NASA's Missions to Moon

- After Apollo 11, the successful crewed mission that made Neil Armstrong the first human to set foot on the Moon, NASA sent six more missions between 1969 and 1972.
- Of these, five succeeded (Apollos 12, 14, 15, 16, and 17) at landing humans on the lunar surface.
- The six missions in total that were able to land on the Moon returned with a wealth of scientific data and almost 400 kilograms of lunar samples.
- The missions landed 12 astronauts on the Moon's surface, all of whom were men.
- By 2024, the space agency plans to send the first woman and the next man aboard the Artemis mission.

CollabCAD

- CollabCAD is an indigenous three dimensional computer aided design system which helps the used to build models in virtual 3d space and create and engineering drawings for shop floor which makes it a complete package for smart manufacturing.
- It is jointly launched by Atal Innovation Mission, NITI Aayog and National Informatics Centre (NIC).
- CollabCAD initiative aims to provide a great platform to students of Atal Tinkering Labs (ATLs) across country to create and modify 3d designs with free flow of creativity and imagination.
- This software would also enable students to create data across the network and concurrently access the same design data for storage and visualization.
- NIC is playing a crucial role in pushing the online module to reach to the students all across the country by providing a huge source of data through this software CAD system.
- CollabCAD will be used by around 5000 schools where Atal Tinkering Labs are established.

National Informatics Centre

- National Informatics Centre (NIC) was established in 1976, under the

aegis of the Ministry of Electronics and Information Technology.

- NIC is credited with helping the Indian Government embrace IT in the 1990s, and has also helped disseminate E-Governance to the masses.
- NIC provides infrastructure to help support delivery of Government IT services and delivery of some of the initiatives of Digital India.
- From May 2019 the Government of India has set up the "Centre for Smart Governance" (CSG) and state governments have been suggested to go through CSG for IT projects they would previously have used NIC and private firms for.

Atal Innovation Mission

- Atal Innovation Mission housed at NITI Aayog is the Government of India's flagship initiative to promote a culture of innovation and entrepreneurship.
- At the school level, AIM is establishing ATLs in all districts across India.
- AIM has selected a total of 14,916 schools across the country spread across 33 different states and union territories, for the establishment of ATLs.

US-India Missile Deal

- The U.S. State Department has approved two potential missile deals with India, for an estimated $92 million and $63 million.
- **AGM-84L Harpoon Block II air launched missiles and related equipment -** These missiles can be fitted onto Boeing's 8-PI (Poseidon Eight India) maritime patrol aircraft and are intended to enhance India's capability in anti-surface warfare while defending its sea lanes.
- The other deal contracted with Raytheon Integrated Defense System, is for

1. MK 54 All Up Round Lightweight Torpedoes (LWT).
2. MK 54 Exercise Torpedoes.
3. Recoverable Exercise Torpedoes (REXTORP).

- These torpedoes are expected to enhance India's anti-submarine warfare capability and can be used with the P-8I.
- There are no known offset agreements for both deals, and any offset agreements will be defined in negotiations between India and the contractors.
- The Defense Security Cooperation Agency delivered the required certification to the U.S. Congress, notifying it of the possible sale.

- As per the U.S.’s Arms Export Control Act, U.S Congress has 30 days to raise objections to the sale in the case of India.

Source: PIB, the Hindu, Indian Express

