



C.A Dated On 22-08-2018

General Studies- 1

“International Buddhist Conclave 2018”

The President of India Shri Ram Nath Kovind will inaugurate the “**International Buddhist Conclave (IBC), 2018**” in Vigyan Bhawan, New Delhi on 23rd August, 2018.

About IBC 2018:

International Buddhist Conclave 2018 will have a religious / spiritual dimension, an academic theme and a diplomatic and business component.

IBC-2018 will feature presentations by the Ministry of Tourism and State Governments, Panel discussion between scholars and monks and B2B meetings between the foreign and Indian tour operators.

The Ministry has also planned to organize an ‘**Investors’ Summit**’ during the Conclave to attract investments in developing world class infrastructure at Buddhist sites.

Theme of IBC:

“Buddha Path – The Living Heritage”.

Aims of IBC:

- India has a rich ancient Buddhist Heritage with several important sites associated with the life of Lord Buddha. The Indian Buddhist Heritage is of great interest to the followers of Buddhism the world over.
- The aim of the Conclave is to showcase and project the Buddhist Heritage in India and boost tourism to the Buddhist sites in the country and cultivate friendly ties with countries and communities interested in Buddhism.

The most precious gift that the Ancient India has given to the World is, the Buddha and his Path, which is, the Eight-fold Path, in Pali language, *Atthangiko Maggo*.

What is Eight Buddha Path?

- The Buddha Path provides quality of life based on Values as moral principles, or other ideas that guide our choices; Right beliefs, connection to nature and place with spirituality; Way of Life, daily practices, good



C.A Dated On 22-08-2018

habits and inspiring traditional skills for mental growth, thereby, making it the Living Heritage.

- On the other hand, the 'Buddha Path' also refers to the Eight Great Places of Buddhist Heritage, (referred in Pali as *Aṭṭhamahāthānāni*).
- These Eight Places are connected with the important events of the life of the Buddha from the time of his Birth, Enlightenment, Teaching Dhamma to suffering humanity, till he passed away, *Mahāparinirvāna*, at the age of 80 years.
- After Buddha attained Nirvana these places came to be associated with the Path of Buddhism.
- This Buddha Path is the Living Heritage that still continues to inspire millions of people to walk and find out Peace, Happiness, Harmony and Solace. We Indians very much value this extraordinary legacy of the Buddha and take pride in it.

General Studies- 2

Tribal Cooperative Marketing Development Federation of India Limited (TRIFED)

Why in News?

TRIFED has made record procurement of tribal products worth Rs.204.88 Lakhs in the month of July, 2018 and cumulative procurement of Rs.769.36 Lakhs during the current financial year.

This is an increase of 864% during the month of July, 2018 and 511% during the current financial year in comparison to the procurement made in the corresponding period of the last financial year.

About TRIFED:

- Tribal Cooperative Marketing Development Federation of India Limited (TRIFED) is a national-level apex organization functioning, since 1987, under the administrative control of Ministry of Tribal Affairs, Government of India.
- It strives to promote the economic development of the Tribal communities of the country through marketing development and sustained upgradation of their skills and products.



C.A Dated On 22-08-2018

Approach of TRIFED:

- The approach involves capacity building, imparting need-based trainings, exploring marketing possibilities for products in national as well as international markets, brand building & creating opportunities for marketing on sustainable basis.
- In essence, TRIFED's sole objective is to bring about a multi-dimensional transformation of the tribal society and a shift in the perception of their existing image.

General Studies- 3

Ban on Petcoke

Context:

India has banned the import of pet coke for use as fuel, but has allowed shipments for use as feedstock in some industries.

What is allowed?

Import of pet coke is allowed for only cement, lime kiln, calcium carbide and gasification industries, when used as the feedstock or in the manufacturing process on actual user condition.

Background:

- As the world's largest consumer of pet coke, India imports over half its annual pet coke consumption of about 27 million tonnes, mainly from the United States. Local producers include Indian Oil Corp, Reliance Industries and Bharat Petroleum Corp.
- India is the world's biggest consumer of petroleum coke, which is a dark solid carbon material that emits 11% more greenhouse gases than coal. Usage of pet coke, a dirtier alternative to coal, in the energy-hungry country has come under scrutiny due to rising pollution levels in major cities.



C.A Dated On 22-08-2018

What is petcoke?

Petroleum coke, the bottom-of-the-barrel leftover from refining Canadian tar sands crude and other heavy oils, is cheaper and burns hotter than coal. But it also contains more planet-warming carbon and far more heart- and lung-damaging sulphur.

OSIRIS-REx spacecraft

Why in News?:

The *OSIRIS-REx spacecraft* has begun its final approach toward the big near-Earth asteroid *Bennu*. The milestone also marks the official start of OSIRIS-REx's "asteroid operations" mission phase.

OSIRIS-REx is still about 1.2 million miles (2 million kilometers) from *Bennu* and won't arrive in orbit around the 1,650-foot-wide (500 meters) space rock until Dec. 3.

About the mission:

OSIRIS-Rex stands for *Origins, Spectral Interpretation, Resource Identification, Security-Regolith Explorer*.

OSIRIS-REx is *the third mission in NASA's New Frontiers program*, which previously sent the *New Horizons* spacecraft zooming by *Pluto* and the *Juno* spacecraft into orbit around *Jupiter*.

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What will the OSIRIS-Rex do?



C.A Dated On 22-08-2018

OSIRIS-REx will spend two years travelling towards Bennu, arriving at the asteroid in August 2018. The probe will orbit the asteroid for 3 years, conducting several scientific experiments, before returning to Earth, with the sample capsule expected to land in Utah, USA in September 2023.

Scientific Mission Goals:

- During its three year orbit of Bennu, OSIRIS-REx will be conducting a range of scientific experiments in order to better understand the asteroid.
- As part of this, the asteroid will be mapped using instruments on the probe, in order to select a suitable site for samples to be collected from.
- The aim of the mission is to collect a sample of regolith- the loose, soil-like material which covers the surface of the asteroid.
- In July 2020, the probe will move to within a few metres of Bennu, extending its robotic arm to touch the asteroid's surface. The arm will make contact with the surface for just 5 seconds, during which a blast of nitrogen gas will be used to stir up the regolith, allowing it to be sucked into the sample collector.
- OSIRIS-REx has enough nitrogen on board for 3 sample collection attempts, and NASA are hoping to collect between 60 and 2000g of regolith material to bring back to Earth.

What is Bennu?

- **01955 Bennu** (provisional designation 1999 RQ₃₆)[11] is a [carbonaceous asteroid](#) in the [Apollo](#) group discovered by the [LINEAR](#) Project on September 11, 1999.
- It is a [potentially hazardous object](#) that is listed on the [Sentry Risk Table](#) with the second-highest cumulative rating on the [Palermo Technical Impact Hazard Scale](#).
- It has a cumulative 1-in-2,700 chance of impacting Earth between 2175–2199.
- It is the planned target of the [OSIRIS-REx](#) mission which is intended to [return samples](#) to Earth in 2023 for further study.
- 101955 Bennu has a mean diameter of approximately 492 m (1,614 ft; 0.306 mi) and has been observed extensively with the [Arecibo Observatory](#) Planetary Radar and the [Goldstone Deep Space Network](#).



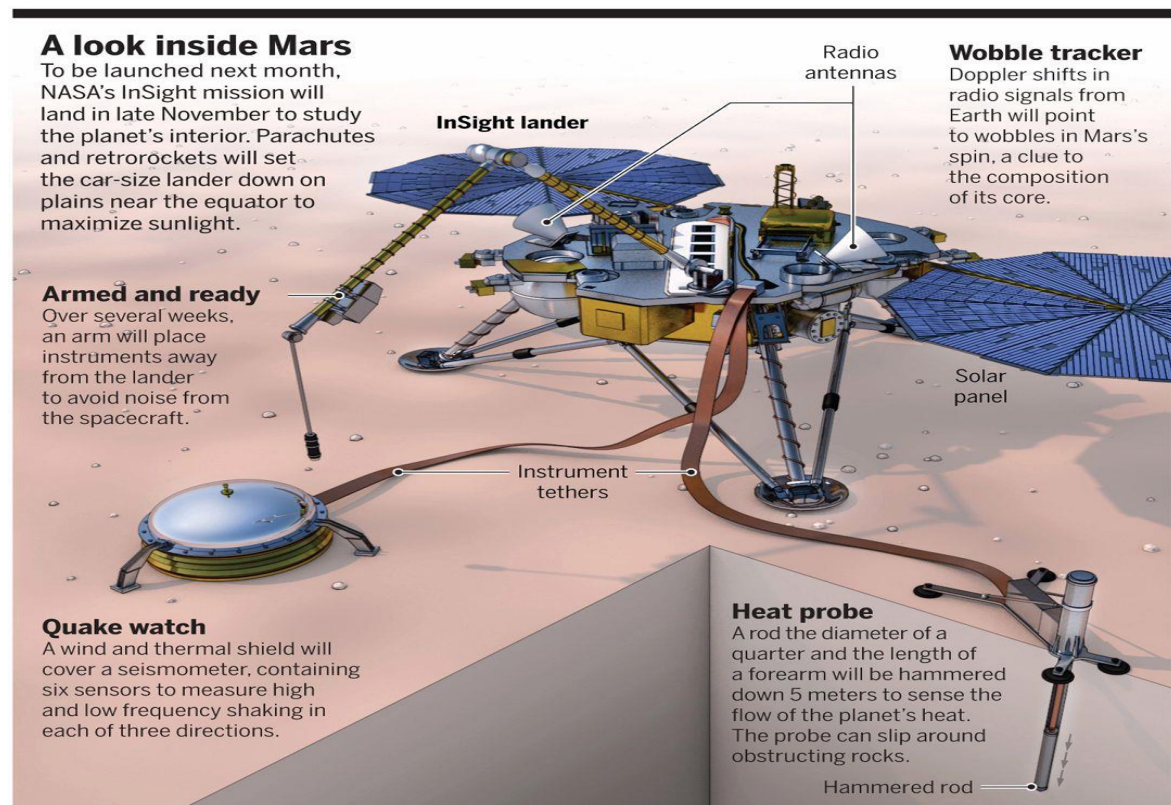
C.A Dated On 22-08-2018

Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight)

Why in News?

NASA's *InSight* spacecraft, en route to land on Mars this November, has passed the halfway mark, covering 277 million kilometres since its launch 107 days ago. In another 98 days, it will travel another 208 million kilometres and touch down in Mars' Elysium Planitia region, where it will be the first mission to study the Red Planet's deep interior.

About InSight Mission:



Significance of the mission:

- The findings of Mars' formation will help better understand how other rocky planets, including Earth, were and are created. But InSight is more than a Mars mission – it is a terrestrial planet explorer that would



C.A Dated On 22-08-2018

address one of the most fundamental issues of planetary and solar system science – understanding the processes that shaped the rocky planets of the inner solar system (including Earth) more than four billion years ago.

- By using sophisticated geophysical instruments, InSight would delve deep beneath the surface of Mars, detecting the fingerprints of the processes of terrestrial planet formation, as well as measuring the planet's "vital signs": Its "pulse" (seismology), "temperature" (heat flow probe), and "reflexes" (precision tracking).
- InSight seeks to answer one of science's most fundamental questions: How did the terrestrial planets form?

Chandrayaan- 1

Context:

Scientists have found *frozen water deposits in the darkest and coldest parts of the Moon's polar regions using data from the Chandrayaan-1 spacecraft*, that was launched by India 10 years ago.

Scientists used data from *NASA's Moon Mineralogy Mapper (M3) instrument* to identify three specific signatures that definitively prove there is water ice at the surface of the Moon.

What is Moon Mineralogy Mapper (M3) instrument?

- M3, aboard the Chandrayaan-1 spacecraft, launched in 2008 by the Indian Space Research Organisation (ISRO), was uniquely equipped to confirm the presence of solid ice on the Moon.
- It collected data that not only picked up the reflective properties we would expect from ice, but was able to directly measure the distinctive way its molecules absorb infrared light, so it can differentiate between liquid water or vapour and solid ice.



C.A Dated On 22-08-2018

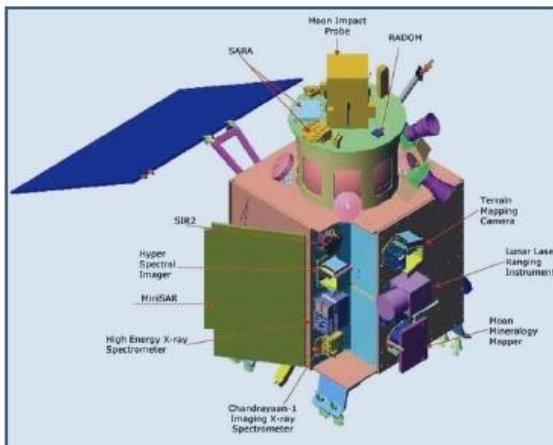
Highlights of the findings:

- With enough ice sitting at the surface — within the top few millimetres — water would possibly be accessible as a resource for future expeditions to explore and even stay on the Moon, and potentially easier to access than the water detected beneath the Moon's surface.
- The ice deposits are patchily distributed and could possibly be ancient. At the southern pole, most of the ice is concentrated at lunar craters, while the northern pole's ice is more widely, but sparsely spread.
- Most of the new-found water ice lies in the shadows of craters near the poles, where the warmest temperatures never reach above minus 156 degrees Celsius. Due to the very small tilt of the Moon's rotation axis, sunlight never reaches these regions.

About Chandrayaan-1:

**Strategic Perspectives and Technical Architecture
Overview of Indian Space Exploration Missions**

Chandrayaan-1 Mission



Objectives:

- Place an unmanned spacecraft in polar orbit around the moon
- Conduct mineralogical and chemical mapping of the entire lunar surface (95%)
- Upgrade technological base for future planetary missions

Orbit: Lunar Polar Orbit at 100 KM Circular
Launched by Indian PSLV XL.

Timeline: Oct 22, 2008 - Aug 29, 2009

Spacecraft:

Basic architecture derived from the IRS satellite bus, Spacecraft weight 1380 kg.

Single solar panel generated 700 W power.

Onboard liquid engine with 440 N performed orbit raising maneuvers.

Eleven Science Instruments (six foreign)