



Daily current affairs

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NASA's InSight

Why in News?

As per latest estimates by the NASA, on November 26, NASA's InSight lander is scheduled to touch down just north of the Martian equator - almost seven months after being launched from Vandenberg Air Force Base in California.



When was it launched?

Early in the morning on May 5, InSight was launched, along with the two tiny Mars Cube One (MarCO) CubeSats, atop a United Launch Alliance Atlas V rocket = making it the first NASA mission to launch to another planet from the West Coast of the United States.

About InSight Mission:

- InSight is part of NASA's Discovery Program, managed by the agency's Marshall Space Flight Center in Huntsville, Alabama.
- It will be the first mission to peer deep beneath the Martian surface, studying the planet's interior by measuring its heat output and listening for marsquakes, which are seismic events similar to earthquakes on Earth.
- It will use the seismic waves generated by marsquakes to develop a map of the planet's deep interior.

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 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?

Hubble space telescope

Why in News?

NASA's famed Hubble Space Telescope has returned to normal operations, and completed its first science observations after a failed orienting tool forced engineers to put it in safe mode earlier this month. The observations were of the distant, star-forming galaxy DSF2237B-1-IR and were taken in infrared wavelengths with the Wide Field Camera 3 instrument.

About the Hubble Space Telescope:

- The Hubble Space Telescope is a large telescope in space. NASA launched Hubble in 1990.
- It was built by the United States space agency NASA, with contributions from the European Space Agency.
- Hubble is the only telescope designed to be serviced in space by astronauts.
- Expanding the frontiers of the visible Universe, the Hubble Space Telescope looks deep into space with cameras that can see across the entire optical spectrum from infrared to ultraviolet.

Significance:

Originally required to last 15 years, Hubble has now been at the forefront of scientific discovery for more than 28 years. The telescope will continue to yield amazing discoveries well into the next decade, enabling it to work alongside the James Webb Space Telescope.

Zero-budget natural farming (ZBNF)

Why in News?

Andhra Pradesh Chief Minister N Chandrababu Naidu has said farmers from the state would be rewarded with Rs 100 crore if they won Nobel prize in natural farming. He said the government has set a goal of achieving 100 per cent zero-budget natural farming (ZBNF) across the state by 2024.



Background:

The **Nobel Prize**, regarded as the most prestigious award, is given in the fields of literature, medicine, physics, chemistry, economics and activism for peace. However, renowned agriculture scientist late Norman Borlaug had won the peace prize in 1970 for his role in

combating world hunger. There is a **World Food Prize** instituted by Borlaug himself in 1986. It is now often referred to as the “Nobel Prize for Food and Agriculture.”

What is Zero Budget Natural Farming?

Zero Budget Natural Farming, as the name implies, is a method of farming where the cost of growing and harvesting plants is zero. This means that farmers need not purchase fertilizers and pesticides in order to ensure the healthy growth of crops. It is, basically, a natural farming technique that uses biological pesticides instead of chemical-based fertilizers. Farmers use earthworms, cow dung, urine, plants, human excreta and such biological fertilizers for crop protection. It reduces farmers' investment. It also protects the soil from degradation.

Background:

Both traditional farming, using chemical fertilisers and pesticides, and organic farming are becoming unviable for farmers. The organic farming was costlier than the traditional farming as the farm inputs were expensive.

Defence Acquisition Council (DAC)

Why in news?

The Defence Acquisition Council (DAC) has accorded approval for the Mid Life Upgrade of 17 Dornier Aircraft of Indian Coast Guard (ICG) at an approximate cost of Rs. 950 crore. The upgrades will be carried out by M/s Hindustan Aeronautics Limited (HAL), the aircraft manufacturer of India.



Background:

ICG is also the nodal agency in India for maritime pollution response. The Coast Guard has a fleet of Dornier aircraft which play a pivotal role in maritime surveillance. In order to enhance the capabilities of the fleet, DAC accorded approval for upgradation of these aircraft with state-of-the-art technology, spares, Special Maintenance Tools (SMT) and Special Test Equipment (STE).

Defence Acquisition Council (DAC):

What is it? To counter corruption and speed up decision- making in military procurement, the government of India in 2001 decided to set up an integrated DAC. It is headed by the Defence Minister.

Objective: The objective of the DAC is to ensure expeditious procurement of the approved requirements of the Armed Forces, in terms of capabilities sought, and time frame prescribed, by optimally utilizing the allocated budgetary resources.

Functions: The DAC is responsible to give policy guidelines to acquisitions, based on long-

term procurement plans. It also clears all acquisitions, which includes both imported and those produced indigenously or under a foreign license.



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