Prelim Bits 30-07-2018

Deep Ocean Mission

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- The Central government has drawn up a 5-year plan to explore the deep ocean.
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- Ministry of Earth Sciences has been tasked with coordinating the exercise.
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- The ministry has recently unveiled the blueprint of "Deep Ocean Mission".
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- The mission proposes to explore the deep ocean similar to the space exploration started by ISRO about 35 years ago.
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- The Exclusive Economic Zone (EEZ) allotted to India (2.2 million sq.km) in the international waters will be covered under this mission.
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- The focus will be on technologies for deep-sea mining, underwater vehicles, underwater robotics and ocean climate change advisory services.
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- Under this mission, the key deliverables are
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i. Offshore desalination plant that will work with tidal energy, and
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ii. Developing a submersible vehicle that can go to a depth of at least 6,000 metres with three people on board.
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India and Central Indian Ocean Basin

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- India has exclusive right to explore deep sea mineral - polymetallic nodules from seabed in Central Indian Ocean Basin.

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- A long–term Polymetallic Nodules programme is being implemented by the Ministry of Earth Sciences.
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- This right in the international water is allocated by International Seabed Authority (ISA).
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- ISA is a UN body set upto regulate the exploration and exploitation of marine non-living resources of oceans in international waters.
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- It is headquartered at Kingston, Jamaica.
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- In 2016, India was re-elected as a member of Council of ISA.
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National Advanced Surface-to-Air Missile System

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- India is planning to procure National Advanced Surface-to-Air Missile System (NASAM - II) from U.S.
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- It is an advanced air defence system.
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- It is the state-of-the-art defense system that has ability to quickly identify and destroy enemy aircraft, UAV or emerging cruise missile threats.
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- NASAMS-II is an upgraded version of the NASAMS and features new 3D mobile surveillance radars and 12 missile launchers for quicker reaction.
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- It is proposed to be deployed to protect national capital region.
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- It will help in preventing 9/11-type attacks in Delhi.
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Advanced Air Defence systems in India

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- India is deploying a multi-tiered air defence network to fully secure its airspace from incoming fighter aircraft, missiles and UAV.
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- An indigenous two tired defence shield known as "Ballistic Missile Defence (BMD)", to destroy enemy ballistic missiles is being developed.
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- The BMD consists of two interceptor missiles,
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i. The Prithvi Defence Vehicle (PDV) for exo-atmospheric (high) altitudes of 50–80 km and
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ii. The Advanced Area Defence (AAD) missile for endo-atmosphere (low) altitudes of 15-30 kilometers.
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- India is also in an advanced stage of talks with Russia for the procurement of very long range S-400 air defence systems.
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Transiting Exoplanet Survey Satellite (TESS)

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- TESS is NASA's latest satellite to search for planets outside our solar system, known as exoplanets.
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- The mission will spend the next two years monitoring the nearest and brightest stars for "Transits".
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- Transits are events which denote a periodic dips in light of the star when a planet pass in front of it.
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- It was launched in April this year and it has now started its search for planets around nearby stars.
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- It is expected to transmit its first series of science data back to Earth in August, and thereafter periodically every 13.5 days.
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- It is the next step in the search for planets outside of our solar system, including those that could support life.
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National Skill Training Institute (NSTI) for Women

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- A permanent campus of National Skill Training Institute (NSTI) for Women is going to be built at Mohali, Punjab.
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- This is the first NSTI Institute for Punjab and only one of its kind in India which is exclusively for women.
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- It is launched under "Skill India" Mission.
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Pradhan Mantri Kaushal Kendra (PMKK)

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- PMKK is established by National Skill Development Corporation (NSDC) across India.
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- It aims to provide skill training for unemployed youth through its short-term training (STT) module and contribute to the capacity building of municipal employees through Recognition of Prior Learning (RPL) program.
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- PMKK for differently abled person is going to be launched in Mohali.
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- It is also a first of its kind in India.
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FASTag

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- A FASTag is a reloadable tag that automatically deducts toll charges and allows a vehicle to pass through a toll gate without stopping for the payment.
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- It uses radio frequency identification (RFID) technology to make cashless payments through a prepaid account linked to it.
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- The tag is fixed to the windscreen of a vehicle and an RFID antenna in the

canopy of the toll gate scans the QR code and lifts the barrier to allow a vehicle to pass through.
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- The tag is valid for five years.
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- It is coded in 7 different colors, each is assigned to a particular category of vehicles.
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- It is mandatory for cars and trucks sold after December 1, 2017 to be fitted with a FASTag.
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- Ministry of Road Transport and Highways has also proposed to make FASTag compulsory for all commercial vehicles seeking a national permit.
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- National Highway Authority of India (NHAI) has a mobile application for FASTag that allows users to buy and recharge these tags as well as seek information on toll rates on different routes.
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- It also allows the cab operators to track the movement of their vehicles as they receive SMS alerts.
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- Users are refunded 5% of the total toll paid by them in a given month.
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Source: The Hindu, PIB

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