

EVERYDAY CURRENT AFFAIRS – OCT 9, 2019

TAMIL NADU

- ◆ **The Tamil Nadu Fisheries department – is planning to form a special ‘enforcement wing’ to monitor traditional fishing boats, movement of trawlers and usage of nets**
 - ✓ The wing will be provided with five boats with an overall strength of 180 personnel.
 - ✓ It will be led by an officer in the rank of superintendent.
 - ✓ Two deputy superintendents, inspectors and sub-inspectors will work under his supervision.
 - ✓ A total of Rs 8.50 crore has been proposed as recurring expenditure for the routine functioning of the wing.

NATIONAL

- ◆ **The Centre – is planning to create a 1,400km long and 5km wide ‘green’ belt from Gujarat to the Delhi-Haryana border to combat climate change and desertification**

SHIELD AGAINST DESERT



- Forest belt likely to run roughly from Porbandar to Panipat, covering entire Aravali range and beyond
- ‘Green wall’ will act as barrier for dust from west and check eastward march of Thar desert
- It will check desertification by restoring degraded land through massive afforestation
- Project yet to get formal nod, details to be worked out

- ✓ The concept of creating a huge green belt was part of the agenda of the recently held conference (COP14) of the United Nations Convention to Combat Desertification in India
- ✓ India seeks to replicate the idea of “Great Green Wall” of Africa as a national priority in order to restore 26 million hectares of degraded land by 2030.
- ✓ The “Great Green Wall” of Africa was planned to run through the width of Africa, from Dakar (Senegal) to Djibouti
- ✓ It is yet to take off due to the involvement of many countries in its implementation, even though it was planned a decade ago
- ✓ It was started with the support of many partners including UNCCD, World Bank and the European Commission
- ✓ The Aravali has been chosen as one of the key degraded zones to be taken up for greening under India’s target to restore 26 million hectares (mha) of its land.
- ✓ India has, at present, 96.4 mha of degraded land which is 29.3% of the country’s total geographical area (328.7 mha).
- ✓ The desertification and land degradation atlas of India, released by the ISRO in 2016, identified that Gujarat, Rajasthan and Delhi were among states/ UT, where more than 50% of the total area was degraded land and those under the threat of desertification.

◆ **Technology giant, Google – partners with Union ministry of tourism and culture and NGO Dastkari Haat Samiti to launch online exhibition 'Crafted in India' to showcase handicrafts of the country**



- ✓ ‘Crafted in India’ is India’s largest online crafts exhibition with art forms from 29 states available along with other masterpieces from the world
- ✓ It has nearly 50 craft forms, and is available on the app ‘Google Arts and Culture’
- ✓ Several Indian art forms, ranging from fabrics to embroidery, wall paintings to stonework, metal casting to carvings will be available for sale in the exhibition
- ✓ The app also offers a virtual tour of several museums — Met and the British museum — and other landmarks across the world.

SCIENCE, TECHNOLOGY & ENVIRONMENT

◆ **Saturn – overtakes Jupiter as the planet with most moons after the discovery of 20 new moons by a team of astronomers led by Scott S. Sheppard**

- ✓ Now, Saturn, the 6th planet in solar system has 82 moons when compared with the 5th planet in solar system, Jupiter, which has 79 moons
- ✓ However, our solar system’s biggest planet — Jupiter — still has the biggest moon.
- ✓ Jupiter’s Ganymede is almost half the size of Earth

- ✓ Saturn's 20 new moons are minuscule, each barely 5km in diameter.
- ✓ These baby moons may have come from larger parent moons that broke apart immediately after Saturn formed.
- ✓ 17 of Saturn's new moons orbit the planet in the opposite, or retrograde, direction
- ✓ The other 3 orbit in the same direction of the rotation of Saturn
- ✓ These moons are very far from Saturn that it takes two to three years to complete a single orbit
- ✓ During last year, the team of Sheppard found 12 new moons around Jupiter.

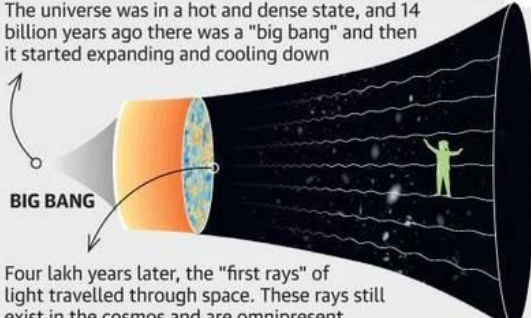
AWARDS

◆ Canadian-American cosmologist James Peebles and Swiss scientists Michel Mayor and Didier Queloz - won the 2019 Nobel Prize for Physics


The unknown & an exoplanet

Canadian-American cosmologist James Peebles and Swiss scientists Michel Mayor and Didier Queloz won the 2019 Nobel Prize for Physics for revealing the wonder of the evolution of the universe and discovering exoplanets


The universe was in a hot and dense state, and 14 billion years ago there was a "big bang" and then it started expanding and cooling down



Four lakh years later, the "first rays" of light travelled through space. These rays still exist in the cosmos and are omnipresent



James Peebles Michel Mayor Didier Queloz



- Mayor and Queloz discovered "51 Pegasi b" — first-ever find of an exoplanet orbiting a solar-type star

- Surprisingly, the planet was as big as Jupiter (1,300 times Earth's volume) but was very close to its star (takes just 4 days to orbit)

- Big planets were thought to be created far from their stars. How did "51 Pegasi b" get so close? This question led to theories that described how large gas balls formed at the edges of their solar systems, then spiralled inward

- Peebles interpreted the "first rays" and showed that in the universe just 5% is known matter. The rest is unknown dark matter & dark energy. His insights turned cosmology from speculation to science sparking further research

- The dark matter is the force which holds together galaxies which otherwise may get torn apart. The dark energy helps the universe's increasingly rapid and constant expansion. Thus, one pulls and the other pushes

- ✓ Peebles was awarded half of the 9-million-Swedish-crown (\$910,000) prize for his theoretical discoveries in cosmology about the cosmos and its billions of galaxies and galaxy clusters
- ✓ Peebles is associated with Princeton University in the United States
- ✓ Mayor and Queloz, from Switzerland's University of Geneva and Britain's Cambridge University respectively, shared the rest.
- ✓ Mayor and Queloz announced the first discovery of a planet outside our own solar system, a so-called "exoplanet" - 51 Pegasi B, a gaseous ball comparable with Jupiter in 1995 - creating a revolution in astronomy.
- ✓ On October 7, William Kaelin, Gregg Semenza and Peter Ratcliffe were announced to share the medicine prize for discoveries about how cells respond to oxygen levels.

- ◆ **'Spirit of Kerala', a short film on boat race directed by Arun Joseph - has bagged the People's Choice award at the recently concluded My Rode Reel film competition**



- ✓ The competition is considered as the 'world's largest short film competition'.
- ✓ The film, running for 2.56 minutes, won the honour beating 1,680 entries

REPORT

- ◆ **Defence minister Rajnath Singh - performed "Shastra Puja" on the first Rafale after it was formally handed over to the IAF at Merignac in Bordeaux region of France, in the presence of his French counterpart Florence Parly on October 8**

RAFALE REPORTS FOR DUTY

Defence minister Rajnath Singh performs shastra puja of the first Rafale fighter delivered to the IAF at a factory of French aircraft manufacturer Dassault Aviation in France on Tuesday | P-11

THE DELIVERY

First four fighter jets to arrive in India by May 2020 after training of induction team in France

All 36 by April 2022

- First 18 at Ambala in 17 'Golden Arrows' Squadron
- Next 18 at Haseerana in 101 'Falcons' Squadron

THE PUNCH

- > 4.5-generation omni-role fighter aircraft
- > Can simultaneously perform both air defence & ground attack missions
- > Can deliver nuclear weapons if required

THE WEAPONS

- > 120 to 150 km beyond-visual range Meteor air-to-air missiles (provide clear edge over Pak's F-16s)
- > Over 70-km range MICA air-to-air missiles
- > Over 300-km Scalp air-to-ground cruise missiles

THE FIGHTER DEAL

<p>Overall cost 7.8 billion euros (₹59,000 crore)</p>	<p>Deal inked for 36 jets (28 single-seat & 8 twin-seat) in Sept 2016</p>	<p>No 'Make in India' but has 50% offsets</p>
--	--	--

INDIA-SPECIFIC ENHANCEMENTS

- > Cost India around 1.3 billion euros
- > Will become fully-operational only by Sept-Oct 2022
- > 13 upgrades range from radar enhancements, Israeli helmet-mounted displays & low-band jammers to towed decoy systems, 10-hour flight data recording & the engine capability for 'cold start' from high-altitude regions
- > Also include Israeli litening pods for target acquisition & guidance kits for Spice precision-guided munitions

COMBAT RANGE
From **780 km to over 1,650 km** depending on missions

Can carry **9.3 ton** of weapon

Defence minister Rajnath Singh in a Rafale jet in France on Tuesday

- ✓ The Defence Minister then undertook a sortie in the twin-seat Rafale, piloted by French Captain Phil.
- ✓ The jet has the tail number “RB-001” to mark the key role played by IAF chief Air Chief Marshal R K S Bhadauria in clinching the mega deal.
- ✓ The first batch of the four jets will arrive in India in May 2020 and by May 2022, all the 36 jets will arrive in the country
- ✓ In September 2016, India and France signed a €7.87 billion (Rs 59,000 crore) Inter-Governmental Agreement (IGA) for 36 Rafale multi-role fighter jets in fly-away condition following the announcement by Prime Minister Narendra Modi in April 2015.

