

1. Savitribai Phule

Why in News?

- The Prime Minister, Narendra Modi recently paid tributes to Savitribai Phule on her 189th birth anniversary.

About:

- Savitribai Phule (1831 – 1897) was an Indian social reformer, educationalist, and poet from Maharashtra.
- Along with her husband, Jyotirao Phule, she played an important role in improving women's rights in India. She is regarded as the mother of Indian feminism.
- She established the Mahila Seva Mandal to raise awareness for issues concerning women's rights. Savitribai was also an anti-infanticide activist. She opened a women's shelter called the Home for the Prevention of Infanticide, where Brahmin widows could safely deliver their children and leave them there to be adopted if they so desired.
- She is regarded as the first female teacher of India. Phule and her husband founded the first Indian girls' school in Pune, at Bhide wada in 1848.
- She also worked to abolish the discrimination and unfair treatment of people based on caste.
- She published Kavya Phule in 1854 and Bavan Kashi Subodh Ratnakar in 1892, and also a poem entitled "Go, Get Education" in which she encouraged those who are oppressed to free themselves by obtaining an education.

2. Senna Spectabilis

Why in News?

- The Kerala Forest department is taking comprehensive steps to arrest the rampant growth of invasive alien plants, especially tree species like 'Senna Spectabilis', in the forest areas of the Nilgiri Biosphere Reserve (NBR), including the Wayanad wildlife sanctuary.

About:

- Senna spectabilis is a plant species of the legume family (Fabaceae) in the subfamily Caesalpinioideae native to South and Central America.
- They are often grown as an ornamental in front yards, parks, gardens, buildings etc. due to their bright yellow flowers that bloom during the summer months.

- They are also known as Golden wonder tree, American cassia, Popcorn tree, Cassia excelsa, Golden shower tree or Archibald's cassia.
- The plant has become an invasive alien species in parts of Africa and South Asia after it was introduced for resources such as firewood as well as to help combat deteriorating ecosystems affected by deforestation and desertification.
- Currently, *S. spectabilis* is overtaking native tree species of forestry ecosystems around the world because of its ability to grow quickly.



3. World Braille Day

Why in News?

- All India Radio News and its regional units in Pune and Nagpur have observed World Braille Day in an innovative way by broadcasting news read by visually impaired students and officers. The news was scripted in Braille and read live.

World Braille Day:

- January 4th is celebrated as World Braille Day in order to mark the birth anniversary of Louis Braille. The declaration to celebrate the day was given by the UN in 2018.
- Louis Braille is credited with inventing the Braille language. Braille is a tactile writing system used by people who are visually impaired.
- The World Braille Day spreads awareness about Braille script and other accessible forms of communication, as most of the public places such as hospitals fail to provide their material in Braille.
- Despite 2.2 billion people with visual impairment in the world, most of the schools do not offer classes in Braille and a lot of countries do not even recognize this as a part of their educational curriculum.
- The 2006 Convention on the Rights of Persons with Disabilities considers Braille essential for education.
- Hence, the celebration of the World Braille Day is intended to spread awareness amongst people regarding the necessity and importance of including the language at a more global level.

4. Challakere - ISRO's Astronaut Training Hub

Why in News?

- According to an update from the Indian Space Research Organisation (ISRO), a world-class facility for the training of astronauts will come up in Challakere in Chitradurga district of Karnataka.

Highlights:

- Challakere, about 400 km from Bengaluru, is also where premier scientific establishments have set up adjoining and interactive campuses.
- Called the Science City, it houses facilities of the ISRO, the Defence Research & Development Organisation's Advanced Aeronautical Test Range, the Bhabha Atomic Research Centre and the Indian Institute of Science.
- ISRO has proposed a ₹ 2,700-crore master plan to create top infrastructure that will house its young Human Space Flight Centre (HSFC).
- Currently, HSP [Human Spaceflight Programme] work is split across various centres such as the Vikram Sarabhai Space Centre in Thiruvananthapuram and the U.R. Rao Satellite Centre in Bengaluru. The Institute of Aerospace Medicine of the Air Force has been roped in for the astronauts' selection, basic and final training in Bengaluru.

Significance:

- India pays a substantial sum to use such facilities abroad.
- The first set of four astronaut candidates for the first Gaganyaan mission of 2022 are to train at the Yuri Gagarin Cosmonaut Training Centre for 15 months as candidates for Gaganyaan, in Russia.
- In Moscow, they will learn the skills of life and survival in a narrow capsule, before, during and after travelling away from earth's gravity while managing the travel around earth.
- With the establishment of such facilities in India, future training could be done in India.
- The centre is tasked with pursuing future human space missions, complete mission planning, developing engineering systems for survival and safe return of the crew from space, as also selecting and training the astronauts.

5. ISRO keeps the hopes high for Space exploration

Why in News?

- According to the ISRO's chief K Sivan, the Four men from the Indian Air Force have been selected to undergo training for India's first human spaceflight mission 'Gaganyaan'.
- He declared 2020 as the year of Gaganyaan and Chandrayaan-3.

ISRO's Missions:

Gaganyaan:

- Gaganyaan will be India's first manned space mission with an estimated budget of ₹10,000-crore.
- India is planning to send three to seven humans (Gaganyatris) into space i.e. in the low earth orbit (LEO) by 2022 for a period of five to seven days.
- The crewed vehicle is planned to be launched on ISRO's GSLV Mk III.
- The astronauts will conduct experiments on microgravity in space.
- India will be fourth nation in the world after USA, Russia and China to launch human spaceflight mission.

Chandrayaan:

- The Chandrayaan mission was launched in October 2008 and actively operated until August 2009.
- The mission included a lunar orbiter and an impactor.
- It was launched using the PSLV-XL rocket from the Satish Dhawan Space Centre located in Sriharikota.

Chandrayaan 2:

- Chandrayaan 2 mission was a ₹1000-crore ambitious mission of ISRO to explore the South Pole of Moon.
- It was launched on 22 July 2019 and was expected to have soft landing on the moon on Sep 7, 2019.
- It suffered partial failure after its communication was lost with mission's lander (Vikram) and rover (Pragyan) due to hard landing over the surface of moon.
- The South Pole region of Moon is still unexplored, has craters that are cold traps and contain a fossil record of the early Solar System.

Chandrayaan 3:

- It extends the mission of ISRO to explore the South Pole of Moon after Chandrayaan 2.
- The launch of the nearly ₹600-crore Chandrayaan-3 is targeted for the end of 2020 or early 2021.
- Chandrayaan 3 will have lander and rover and will not feature an orbiter of its own.

