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Science and Technology Indicators

- Science and Technology Indicators (STI) is a periodic compendium of the state of scientific research in India.
- It is prepared by the National Science and Technology Management Information System, a division of the Department of Science Technology.
- According to highlights of Science and Technology Indicators (STI), 2018,

1. India's private sector research companies appear to employ a larger proportion of women in core research and development activities than government-funded major scientific agencies do.
2. For every one woman, there are six male scientists in private sector R&D establishments. However, the ratio is four for one in major scientific agencies.
3. The bulk of scientists (in private and publicly funded organisations included) were in 'Engineering Technology' followed by the Medical Sciences and Natural Sciences.

Flavonoids

- Flavonoids are part of the polyphenol class of phytonutrients (plant chemicals) found in almost all fruits and vegetables.
- Along with carotenoids (organic pigments), they are responsible for the vivid colours in fruits and vegetables.
- Polyphenols have historically been used in Chinese and Ayurvedic medicine and are associated with skin protection, brain function, blood sugar and blood pressure regulation.
- These are powerful antioxidants with anti-inflammatory and immune system benefits as well.
- A diet rich in flavonoids can protect from diseases related to heart, liver, kidney, brain and other infectious diseases.
- Recently, scientists from Agharkar Research Institute (ARI), found the first synthetic route for producing flavonoids molecules related to the treatment of tuberculosis and chikungunya.
- It will ensure their availability at all seasons without the dependence on natural timings of the plantations.

- It is for the first time that scientists have been able to synthesize the flavonoid molecules such as rugosa flavonoids, podocare flavone and isoflavone in a lab.
- These three molecules have so far been isolated from plants only and are found to inhibit tuberculosis and chikungunya.

Border Work Group (BWG)

- The BWG is a joint agency constituted by the governments of India and Nepal in 2014.
- It aims to carry out works in the fields of construction, restoration and repair of boundary pillars including clearance of 'no-man's land' and other technical tasks.
- It is led by the Surveyor General of India, the BWG is different from the foreign secretaries meeting that is being sought to discuss the Kalapani border dispute, but it is an important mechanism to review the boundary work.
- Survey of India is the National Mapping Agency under the Department of Science & Technology.
- The group so far has held six meetings, the last meeting was on 28th August 2019 in Dehradun.
- Recently Nepal has proposed a meeting of the Boundary Working Group (BWG) in August end or early September 2020.

National Sports Awards 2020

- National Sports Awards are given every year to recognize and reward excellence in sports.
- It comprises the following awards

1. **Rajiv Gandhi Khel Ratna -** It is the highest sporting honour of India, instituted in 1991-92.

The recipient(s) is/are honoured for their outstanding performance in the field of sports over a period of four years at international level.

2. **Dronacharya Awards -** It was instituted in 1985, to honour eminent Coaches for producing medal winners at prestigious International sports events.
3. **Arjuna awards -** It was instituted in 1961, to be eligible for the Award, a sportsperson should have had not only good performance over the previous four years at the International level but also should have shown

qualities of leadership, sportsmanship and a sense of discipline.

4. **Dhyan Chand Award -** It was instituted in 2002, It is an award for life-time achievements in sports.
5. **Tenzing Norgay National Adventure Award -** It is the highest national recognition for outstanding achievements in the field of adventure on land, sea and air.
6. **Maulana Abul Kalam Azad (MAKA) Trophy -** It was instituted in 1956-57 to honour the top overall performing university in the Inter-University Tournaments.
7. **Rashtriya Khel Protsahana Purushkar -** It was instituted from 2009 to recognize the corporate entities (both in private and public sector) and individuals who have played a visible role in the area of sports promotion and development.

Namath Basai Scheme

- Kerala State government is carrying out a unique programme called "Namath Basai" of teaching tribal children in their mother tongue.
- The programme is being implemented by the Samagra Shiksha Kerala (SSK).
- SSK is an overarching programme for the school education sector extending from pre-school to class 12.
- It aims at improving school effectiveness measured in terms of equal opportunities for schooling and equitable learning outcomes.
- It has succeeded in retaining hundreds of tribal children in their online classes using their mother tongue as language of instruction.
- It offers pre-recorded classes through a YouTube channel in three tribal languages in Attappady valley in Palakkad District Kerala.
- These languages belong to the Irula, Muduka and Kurumba tribes.
- It is being introduced in the tribal belts of Wayanad and Idukki as well.
- Classes are offered in the Oorali, Muthuvan and Paniya languages in Idukki.

Brown Dwarfs

- Recently, Citizen Scientists and NOIR Lab facilities discovered almost 100 nearby cool Brown Dwarfs.
- Brown dwarf are an astronomical object that is intermediate between a planet and a star.
- They are usually have a mass less than 0.075 that of the Sun, or roughly 75 times that of Jupiter.

- They are outside the solar system, they give off little light and energy and they are challenging to locate.
- Brown dwarfs are also called failed stars, because their masses are heavier than planets but lighter than stars.
- Due to their small masses, they are unable to sustain fusion of their hydrogen to produce energy.
- It is believed that some of the more massive brown dwarfs fuse deuterium or lithium and glow faintly.

Source: PIB, the Hindu

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