UPSC Daily Current Affairs | Prelim Bits 25-09-2020

Indian Institutes of Information Technology laws Bill

- Rajya Sabha has passed the Indian Institutes of Information Technology Laws (Amendment) Bill, 2020.
- It has been already passed by Lok Sabha.
- The Bill seeks to declare following five IIITs as as institutions of national importance, under the PPP mode in

1. Surat,
2. Bhopal,
3. Bhagalpur,
4. Agartala,
5. Raichur.

- Currently, these institutes are registered as Societies under the Societies Registration Act, 1860 and do not have the power to grant degrees or diplomas.
- On being declared institutions of national importance, the five institutes will be granted the power to grant degrees.
- The Bill seeks amendment to the Indian Institutes of Information Technology Act, 2014 and the Indian Institutes of Information Technology (Public-private Partnership) Act, 2017.
- The central government will contribute 50% towards the expenses of institutes functioning under the PPP mode.
- 35% will be borne by the states and 15% by the industries.
- As a special impetus to north eastern states, central government will bear over 57% of the expenses whereas industries will contribute around 7% to the Institutes.

Standards for Safety Evaluation of Hydrogen Fuel Cell Vehicles

- The Ministry of Road Transport and Highways has notified the Standards for Safety Evaluation of vehicles being propelled by Hydrogen Fuel Cells.
- The Standards were notified through an amendment to Central Motor Vehicles Rules 1989.
- This would facilitate the promotion of Hydrogen Fuel Cell based vehicles in the country which are energy efficient and environment friendly.

- These standards are also at par with the available international standards.
- The motor vehicles of Category M and Category N, running on compressed gaseous hydrogen fuel cell, shall be in accordance with AIS 157:2020, as amended from time to time, till the corresponding Bureau of Indian Standard Act, 2016, specification is notified.
- Also, the hydrogen fuel specification for fuel cell vehicles will be in accordance with ISO 14687.

CICA Meeting

- Conference on Interaction and Confidence-Building Measures in Asia (CICA) is a multi-national forum for enhancing cooperation towards promoting peace, security and stability in Asia.
- The idea of convening the CICA was first proposed by the First President of the Republic of Kazakhstan in 1992, at the 47th Session of the United Nations General Assembly.
- It consists of 27 member nations from Asia including Afghanistan, Bangladesh, Cambodia, China, Egypt, India etc. Japan, Indonesia, USA etc. are some of its Observer Nations.
- Republic of Tajikistan is the CICA Chairman for the period 2018-2020.
- Recently, the Foreign Ministers' meetings of the South Asian Association for Regional Cooperation (SAARC) and the Conference on Interaction and Confidence-Building Measures in Asia (CICA) took place in a virtual manner.
- India called the SAARC countries to collectively resolve to defeat the scourge of terrorism, including the forces that nurture, support and encourage an environment of terror and conflict.

PUSA Decomposers

- Recently, the scientists have developed a bio-decomposer technique called 'PUSA Decomposers' for converting crop stubble into compost.
- The decomposers are in the form of capsules made by extracting fungi strains that help the paddy straw to decompose at a much faster rate than usual.
- The fungi helps to produce the essential enzymes for the degradation process.
- It involves making a liquid formulation using decomposer capsules and fermenting it over 8-10 days and then spraying the mixture on fields with crop stubble to ensure speedy bio-decomposition of the stubble.
- The decomposer improves the fertility and productivity of the soil as the stubble works as manure and compost for the crops and lesser fertilizer consumption is required in the future.

World Risk Index

- It is part of the World Risk Report 2020 released by the United Nations University Institute for Environment and Human Security (UNU-EHS), Bundnis Entwicklung Hilft and the University of Stuttgart in Germany.
- It is calculated on a country-by-country basis, through the multiplication of exposure and vulnerability and describes the disaster risk for various countries and regions.
- Released annually since 2011, it indicates which countries are in the greatest need to strengthen measures for coping with and adapting to extreme natural events.
- Highlights of the report are as follows

1. A comparison with the WRI 2019, shows that all south Asian countries have slipped on their ability to adapt to the reality of climate emergency.
2. Countries with a score above 52.73, are 'very poor' in their adaptive capacities for extreme natural disasters.
3. Among continents, Oceania is at the highest risk, followed by Africa and the Americas.
4. According to the World Risk Index (WRI) 2020, India is 'poorly prepared' to deal with 'climate reality', due to which it is vulnerable to extreme natural disasters.
5. It becomes more important given that India's first ever comprehensive climate change assessment report highlighted the impacts of the climate crisis.

Data Sonification

- The National Aeronautics and Space Administration's (NASA) Chandra X-Ray Center (CXC) has unveiled a new 'sonification' project that transforms data from astronomical images into audio.
- It refers to the use of sound values to represent real data.
- It is the auditory version of data visualisation.
- In NASA's Chandra (sonification) project, for instance, data is represented using a number of musical notes.
- The birth of a star, a cloud of dust or even a black hole can be 'heard' as a high- or low-pitched sound.
- The Chandra project has created a celestial concert by translating the same data into sound.
- The data has been collected by NASA's Chandra X-Ray Observatory, Hubble Space Telescope and Spitzer Space Telescope.

Chandra X-ray Project

- The Chandra X-ray Observatory was launched by Space Shuttle Columbia in 1999.
- The Chandra X-ray Observatory is part of NASA's fleet of "Great Observatories" along with the Hubble Space Telescope, the Spitzer Space Telescope.
- The "X-ray universe" refers to the universe as observed with telescopes designed to detect X-rays. X-rays are produced in the cosmos when matter is heated to millions of degrees. Such temperatures occur where high magnetic fields, or extreme gravity, or explosive forces exist in space.
- The telescope is named after the Nobel Prize-winning Indian astrophysicist Subrahmanyan Chandrasekhar.
- Subrahmanyan Chandrasekhar 's work implied that stars more massive than the so-called Chandrasekhar limit would eventually collapse to become objects so dense that not even light could escape it.
- Chandrasekhar limit is the theoretical maximum mass a white dwarf star can have and still remain a white dwarf.
- Although this finding was received with some skepticism at the time, it went on to form the foundation of the theory of black holes, eventually earning him a Nobel Prize in physics for 1983.

Source: PIB, Indian Express, Indian Express

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