Prelim Bits 27-09-2019

Indigenous Fuel Cell System

- Council of Scientific and Industrial Research (CSIR) has unveiled the first indigenous high temperature fuel cell system.
- It was launched in partnership with Indian industries under the flagship programme “New Millennium Indian Technology Leadership Initiative (NMITLI)”.
- A fuel cell is an electrochemical device which directly converts the chemical energy of a fuel into electrical energy.
- In a fuel cell, the fuel and the oxidant, which is usually oxygen or air, are supplied continuously from an external source and power is also drawn continuously.
- In a conventional battery, on the other hand, the fuel and the oxidant are contained within and when these reactants are consumed the battery must be replaced or recharged.
- A high temperature fuel cell using a solid oxide electrolyte, and operated at temperatures above 700°C, is a highly efficient energy conversion device utilizing primarily gaseous fuels like $H_2$and CO.
- It can also be operated in the reverse manner as a high temperature steam electrolyser to produce hydrogen.
- It would replace Diesel Generating (DG) sets and help reduce India’s dependence on crude oil.

CSIR

- It was established in 1942 as an autonomous body, though mainly funded by Ministry of Science and Technology.
- It is registered under Societies Registration Act, 1860.
- Prime Minister is the ex-officio president and Minister of Science and Technology is the ex-officio vice president of CSIR.
- It runs 38 laboratories/institutes, 39 outreach centers, 3 Innovation Centers and 5 units throughout the nation.
- CSIR Achievements – It developed India’s synthetic drug – Methaqualone in 1950.
- It completed the complete sequencing of the Human Genome.
- It established first ever in the world 'Traditional Knowledge Digital Library'

accessible in 5 international languages - English, German, French, Japanese and Spanish.
- The Shanti Swarup Bhatnagar Prize was established by CSIR in 1958, named after its founder.
- The research categories - Biological Sciences, Chemical Sciences, Earth Sciences, Atmosphere, Ocean and Planetary, Engineering, Mathematical Sciences, Medical Sciences & Physical Sciences are eligible for the prize.

Cyberdome

- It is Kerala State police department's premier facility dedicated to prevent cybercrime and mitigate security threats to the State's critical information infrastructure.
- It is the state-of-the art lab with enabling software to crackdown the criminal activities over the Darknet.
- Darknet is a layer of the Internet accessible only by using special software like Tor (The Onion Router), or I2P, which stands for Invisible Internet Project.
- Websites and information on the Darknet are intentionally hidden and cannot be accessed using traditional search engines like Google.
- Its impermeability become a major platform for drug dealers, arms traffickers, child pornography collectors and other criminals involved in financial and physical crimes.
- In order to handle these type of crimes, cyber-surveillance tools to detect and convict those responsible for industrial espionage.
- Cyberdome has used social engineering as the lynchpin of its policing strategy to snoop on radical groups that use the net for extremist activities.

Source: PIB, The Hindu

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