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Water Electrolysis

- Researchers from the IIT- Madras are collaborating with their counterparts in Germany, to develop alternative technologies to produce green hydrogen.
- It is to help the transition to hydrogen-based economy.
- The project is taken up under the Scheme for Promotion of academic and Research Collaboration or SPARC.
- Conventional methods of generating hydrogen result in a large quantity of carbon dioxide, a greenhouse gas that imposed serious environmental concerns.
- Electrochemical splitting of water, called 'Water Electrolysis' (WE), is clean, facile, and highly efficient technology for large-scale production of high-purity H₂.

SPARC Initiative

- Scheme for Promotion of Academic and Research Collaboration (SPARC) is an initiative of the Ministry of Human Resource Development.
- IIT, Kharagpur is the National Coordinating Institute to implement the SPARC programme.
- It aims at improving the research ecosystem of India's higher educational institutions by facilitating academic and research collaborations between Indian institutions and the best institutions in the world.

Report on the Illegal Wildlife Trade

- Recently, the Financial Action Task Force (FATF) has released the first global report on the Illegal Wildlife Trade (IWT) namely, "Money Laundering and the Illegal Wildlife Trade".
- The report comes amid increasing international concern that the crime could lead to more zoonotic diseases in the future.
- The report has also described IWT as a "global threat", which also has links with other organised crimes like modern slavery, drug trafficking and arms trade.

- It also highlighted that criminals are frequently misusing the legitimate wildlife trade, as well as other import-export type businesses, as a front to move and hide illegal proceeds from wildlife crimes.

International Comparison Program

- It is the largest worldwide data-collection initiative, under the guidance of UN Statistical Commission (UNSC).
 - It's goal is to produce Purchasing Power Parities (PPPs) which are vital for converting measures of economic activities to be comparable across economies.
 - Along with the PPPs, the ICP also produces Price Level Indices (PLI) and other regionally comparable aggregates of GDP expenditure.
 - The World Bank has released new Purchasing Power Parities (PPPs) for reference year 2017, under International Comparison Program (ICP).
 - Highlights of recent report
1. The Purchasing Power Parities (PPPs) of Indian Rupee per US\$ at Gross Domestic Product (GDP) level is now 20.65 in 2017 from 15.55 in 2011.
 2. India is second largest economy in terms of its PPP-based share in regional Actual Individual Consumption and regional Gross Capital Formation.
 3. The Price Level Index (PLI)—the ratio of a PPP to its corresponding market exchange rate—is used to compare the price levels of economies, of India is 47.55 in 2017 from 42.99 in 2011.
- India has participated in almost all ICP rounds since its inception in 1970.
 - The Ministry of Statistics and Programme Implementation is National Implementing Agency (NIA) for India.
 - It has the responsibility of planning, coordinating and implementing national ICP activities.

Increase in Ozone Levels

- Recently, the Centre for Science and Environment (CSE) has observed an increase in ozone (a harmful pollutant) levels in the several cities of the country.
- The analysis is based on Central Pollution Control Board (CPCB) data from 22 cities in 15 States.
- The ozone is primarily a "sunny weather problem" in India as the presence of sunlight has a direct impact on formation of ground level ozone.
- Heat acts as a catalyst, facilitating photochemical reactions, hence higher

concentrations of ozone are seen during the summer months.

- Additionally, the intense heat waves are one of the factors responsible for increased ozone levels in the country.
- Usually, the ozone levels tend to spike when winter conditions subside, and its presence is felt most during the day.
- At night, ozone levels tend to deplete, before spiking again during the afternoon, when sunlight is available.
- Thus, the characteristics of summer pollution include high winds, intermittent rains, thunderstorms, high temperature and heat waves.

Ozone Gas

- Ozone is not directly emitted by any source but is formed by photochemical reactions between oxides of nitrogen (NO_x), other volatile organic compounds (VOCs) and gases in the air under the influence of sunlight and heat.
- The 'good' ozone present in the earth's ozone layer protects human beings from harmful Ultraviolet (UV) radiation whereas the ground level ozone is highly reactive and can have adverse impacts on human health.
- Even short-term exposure of an hour is dangerous for those with respiratory conditions and asthma.
- Thus, an 8-hour average is considered for ozone instead of the 24-hour average for other pollutants.
- Ozone pollution is a clear indicator of vehicular pollution, which results in higher concentration of NO_x.

Maharashtra-Bengal Friendship Chapter

- Pune-based NGO Sarhad to launch a series of literary and cultural programmes to strengthen connections between Maharashtra and West Bengal.
- It aims in a bid to revive the Independence-era spirit of the 'Lal-Bal-Pal', named after nationalists Lala Lajpat Rai, 'Lokmanya' Bal Gangadhar Tilak and Bipin Chandra Pal.
- 'Maharashtra-Bengal friendship chapter' is a two year long event that will commence on Tilak's death centenary (August 1, 1920-August 1, 2020).
- The festival will go on till August 15, 2022 to mark the 150th birth anniversary of the great philosopher, Sri Aurobindo Ghosh.

Lala Lajpat Rai

- He was popularly known as Punjab Kesari.

- He was also associated with activities of Punjab National Bank and Lakshmi Insurance Company in their early stages in 1894.
- Following organizations are established by Lala Lajpat Rai,
 1. Arya Gzaette,
 2. Hisar congress,
 3. Hisar Arya Samaj,
 4. National DAV managing Committee.

Bal Gangadhar Tilak

- He was the first leader of the Indian Independence Movement.
- He is known as the "*Father of the Indian unrest.*", Mahatma Gandhi called him "*The Maker of Modern India*".
- Tilak was one of the first and strongest advocates of Swaraj ("self-rule") and a strong radical in Indian consciousness.
- Tilak helped found the *All India Home Rule League* in 1916-18, with G. S. Khaparde and Annie Besant.

Bipin Chandra Pal

- He was an Indian nationalist, writer, orator, social reformer and Indian independence movement activist.
- He stood against the partition of Bengal by the colonial British government.
- He was recognised as the chief exponent of a new national movement revolving around the ideals of *Purna Swaraj, Swadeshi, boycott and national education.*

Aurobindo Ghose

- Aurobindo studied for the Indian Civil Service at King's College, Cambridge, England.
- He involved in nationalist politics in the Indian National Congress and the nascent *revolutionary movement in Bengal with the Anushilan Samiti.*
- At Pondicherry, Sri Aurobindo developed a spiritual practice he called Integral Yoga and founded the Sri Aurobindo Ashram.

Source: PIB, the Hindu.



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