Prelim Bits 21-05-2019

Vayoshreshtha Samman Award

- Vayoshreshtha Samman Award is confered to eminent senior citizens and institutions involved in rendering distinguished services for the cause of elderly persons.
- The award is confered by Department of Social Justice And Empowerment as part of celebration of the International Day of Older Persons (IDOP) every year.
- The Ministries/Departments of Government of India and their autonomous organistions/State Govts. or UT Administration can nominate the suitable individuals/institutions for the Awards.

Redefined Units of Measurement

- World gets the redefined units of measurement of kilogram, Kelvin, mole and ampere.
- Open session of the General Conference on Weights and Measures (CGPM) at BIPM (International Bureau of Weights and Measures) on 16 November 2018, has unanimously adopted the resolution to redefine four of the seven base units.
- The redifined units are

1. The kilogram - SI unit of weight.
2. Kelvin - SI unit of temperature.
3. Mole - SI unit of amount of substance.
4. Ampere- SI unit of current.

- This decision has now enabled scientists and researchers to base the SI units entirely on fundamental properties of nature, which will ensure their ongoing refinement and improvement for years to come.
- The fundamental constants are invariants of time and space and successfully replaced the artifact based units, and aptly opened up the new era for quantum world by linking all seven base units to fundamental constants/quantum standards.

World Metrology Day

- The new SI is being implemented worldwide from 20th May 2019 i.e. the

World Metrology Day.

- The World Metrology Day (WMD) is celebrated annually on this very day as the Metre Convention was signed by representatives of seventeen nations on May 20, 1875.
- The Convention set the framework for global collaboration in the science of measurement and in its industrial, commercial and societal applications.

Superconductor

- Superconductors are materials that conduct electricity with no resistance.
- This means that, unlike the more familiar conductors such as copper or steel, a superconductor can carry a current indefinitely without losing any energy.

Supercapacitor

- A capacitor is a passive two-terminal electronic component that stores electrical energy in an electric field, the effect of a capacitor is known as capacitance.
- A supercapacitor (SC) is also called a supercap, ultracapacitor or Goldcap.
- It is a high-capacity capacitor with capacitance values much higher than other capacitors (but lower voltage limits) that bridge the gap between electrolytic capacitors and rechargeable batteries.

Wearable Supercapacitor

- Researchers at the Indian Institute of Technology (IIT) Bombay have fabricated a wearable supercapacitor that can store and deliver large amount of electrical energy, exceeding other similar devices.
- The wearable energy storage device can be stitched on to any fabric and can deliver power ranging from microwatt to milliwatt.
- The energy stored in the device can power GPS location-based transmitters.
- The electrode of the supercapacitor was fabricated by uniformly coating cotton yarn with carbon nanotubes (CNTs).
- The coating converts the electrical insulating yarn into a metallic conductor thereby behaving like an electrode.

Source: PIB, The Hindu

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