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Important Facts For Prelims (21st May 2019)

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Call Centre for Surveillance of School Teachers by Gujarat Govt.

- **Gujarat government** is going to start a new “**real-time technology enabled**” **surveillance plan to monitor government school teachers** when the new academic session will start in June.
- The aim is to improve the quality of education by ensuring that teachers stick to their assigned tasks on a daily basis.
- The entire operation will be run from a tech-equipped “**command and control centre**”, which is being set up in Gandhinagar.
- Not only the teachers but also the personnel who monitor them will be handed **GPS-enabled tablets** and **tracked through geofencing** by which an alert will be triggered when a mobile device enters or leaves a specified area.
- The executives of the call centre will **ask the teachers a series of questions from a template about the location of their assignment for the day, the task, and who assigned it.**
- If they are on leave, they will have to provide details, including the number of days and the approval authority.
- Then, the data would feed into Excel sheets to record responses for each day. The call centre feedback would be verified with online data collected by other means.
- The control centre will be monitored on a daily basis by the heads of department under the Education Department, Director Primary Education, Director SSA, Gujarat Council of Educational Research and Training, Gujarat Secondary and Higher Secondary Education Board and Schools Commissioner.
- According to the officials, the **new tracking system will have "a positive impact on the teaching fraternity"**. Apart from their whereabouts and assignment, suggestions related to new teaching methods and innovation will also be taken and recorded.

India Adopts New Standards for Measuring Kilogram

Recently, the CSIR-National Physical Laboratory (NPL), which is India's official reference keeper of units of measurements, released a set of recommendations to update the definition of the kilogram.

- The kilogram joined other standard units of measure such as the second, metre, ampere, Kelvin, mole and candela that would no longer be defined by physical objects.
- The measures are all now **defined on the basis of unchanging universal, physics constants**. The kilogram now hinges on the definition of the “**Planck Constant**”, a **constant of nature that relates to how matter releases energy**.
- In 2018, at the General Conference on Weights and Measures (CGPM) in Versailles (France), delegates of International Bureau of Weights and Measures (BIPM) had voted to **redefine the kilogram** in terms of **Planck constant**.
- Earlier, the kilogram derived its provenance from the weight of a block of a platinum-iridium alloy housed at the International Bureau of Weights and Measures in France.

NOTE: CSIR-NPL is also in the process of making its own '**Kibble Balance**', a device that was used to measure the Planck Constant.

THE SEVEN FUNDAMENTAL UNITS

UNIT	QUANTITY	HOW IT IS/WILL BE DEFINED
Meter*	Distance	Based on speed of light
Kilogram**	Mass	To be based on Planck constant
Second*	Time	Based on radiation of caesium-133 atom
Ampere**	Current	To be based on an electron's charge
Kelvin**	Temperature	To be based on Boltzmann constant
Mole**	Amount of substance	To be based on Avogadro constant
Candela*	Luminous intensity	From efficacy of light of specific frequency

VAYOSHRESTHA SAMMAN

Department of Social Justice and Empowerment is inviting nominations for the Vayoshreshtha Samman.

About the Awards

- Vayoshrestha Samman is **National award for Senior citizens** conferred on the **Individuals** (eminent senior citizens) as well as the **Institutions** working for the welfare of older people.
- Vayoshreshtha Awards are presented on the eve of **International Day of Older Person**, which is observed every year on the **1st of October**.

- United Nations General Assembly adopted a resolution to observe 1st October 1999 as the International Year of Older Persons.

Mount Thinchinkhang

- Recently, a team consisting of 20 NCC girl cadets was flagged for mountaineering expedition to Mt. Tenchenkhang.
- **Mount Thinchinkhang (6010m)** is situated in Western Sikkim and falls under **Khangchendzonga National Park** which is a window to natural beauty, bio-diversity, sacred lakes and snow-capped Mountains.
 - It is a National Park and a Biosphere Reserve located in Sikkim, India. It was inscribed to the **UNESCO World Heritage Sites list in July 2016**, becoming the first "**Mixed Heritage**" site of India.
 - It is included in the **UNESCO Man and the Biosphere Programme**. The park gets its name from the mountain Kangchenjunga (alternative spelling Khangchendzonga) which is 8,586 metres (28,169 ft) tall, the third-highest peak in the world. The total area of this park is 849.5 km² (328.0 sq mi).

IIT BOMBAY fabricates wearable supply capacitors

- **IIT BOMBAY** has come up with a supercapacitor which when stitched to a fabric can generate energy ranging from microwatt to milliwatt, which can be further used for **charging GPS location-based devices, LED lamp or even small electronic devices**.
- When Supercapacitor is integrated with piezoelectric generator , it can run on its own without requiring any external power or energy.

About Piezoelectric Currents

- Where **Piezoelectric generator** works on the principle of converting structural vibrations in the form of accumulated charge over the solid (produced by Mechanical stress) into Electricity.
- Piezoelectric effect can be seen in the solid crystal which when subjected to external pressure will generate Alternating Current.
- Piezoelectric effect is a reversible process which implies that applied External stress will result into internal generation of electricity and applied internal stress will result into external electricity.
- Most common piezoelectric materials are Quartz, Ceramic and Salts. Application of piezoelectric effect can be seen in Inkjet printing, generation of high voltages, cigarette lighters etc.
- Fabrication of Electrodes of superconductor done by **coating cotton yarn with carbon nanotubes converts** insulating yarn into metallic superconductor that further increases the electrical conductivity of the wearable superconductor and increases its energy storage capacity.

Ongole Cattle Breed

- The Vice President of India has lamented the neglect of the indigenous **Ongole cattle breed and called for protecting and promoting the animal**, which has become popular all over the world.
- The Ongole breed takes its name from the geographical area in **Andhra Pradesh** in which it is produced.
- It is also called the **Nellore breed** for the reason that formerly, Ongole Taluk was included in the Nellore district but now it is included in Guntur district.
- It is a **native** of the coastal districts: **Guntur, Prakasam** and **Nellore** of Andhra Pradesh.
- It is a **dual-purpose breed** that is it can be raised for the production of milk as well as for the use in field works like for ploughing etc.
- The breed is known for its **toughness, high milk yield, tolerance to tropical heat and disease resistance**.