

06 May 2020: PIB Summary & Analysis

1. 159th birth anniversary of Gurudev Rabindranath Tagore

Context:

The National Gallery of Modern Art will organise a Virtual Tour titled “Gurudev – Journey of the Maestro through his visual vocabulary” from 7th May 2020 to commemorate the 159th birth anniversary of Gurudev Rabindranath Tagore.

Details:

- Rabindranath Tagore, the composer of India’s national anthem ‘Jana Gana Mana’, was not only a brilliant poet and storyteller, but also a phenomenal painter.
- For more on Tagore, check [This Day in History dated August 7](#).

2. Pradhan Mantri Garib Kalyan Package (PMGKP)

Context:

Around 39 crore poor people received financial assistance of Rs 34,800 crore under the PMGKP.

For more on [Pradhan Mantri Garib Kalyan Yojana](#), click on the linked article.

3. Aarogya Setu Interactive Voice Response System (IVRS)

Context:

Aarogya Setu IVRS services implemented to cater to people having feature phone or landline.

Details:

- The Aarogya Setu App, developed by the Ministry of Electronics and IT, enables people to assess for themselves the risk of their catching the Corona Virus infection.
 - It will calculate this based on their interaction with others, using cutting edge Bluetooth technology, algorithms and artificial intelligence.
 - The app is available on both Google Play (for Android phones) and iOS app store (for iPhones). It is available in 10 Indian languages and also English.
 - For more on the [Aarogya Setu App](#), click on the linked article.
- For including the citizens with feature phones and landline under the protection of Aarogya Setu, the “Aarogya Setu Interactive Voice Response System (IVRS)” has been implemented.
- This service is available across the country. This is a toll-free service, where citizens are asked to give a missed call to the number 1921 and they will get a call back requesting for inputs regarding their health.

4. DST INSPIRE Faculty develops nanomaterials having energy storage application & optical sensors for water pollution control

Context:

A recipient of the INSPIRE Faculty Award instituted by the Department of Science & Technology (DST), from the IIT Varanasi (BHU), along with his team, has made significant achievements in developing nanomaterial-based supercapacitors to achieve high energy density and power density of supercapacitors.

Details:

- Increasing energy demand due to the growth of human population and technological advancement poses a great challenge for human society.
- High energy density of supercapacitors suggests that constant current can be withdrawn for longer duration without recharging.
- Hence, automobiles can run longer distances without charging. Supercapacitors can be an alternative for such purposes.
- The research team developed a reduced graphene oxide (rGO) at a moderate temperature of 100°C with high capacitance performance. The production process is a cost-effective one, making it suitable for commercial purposes.
- They have also developed a novel green approach for the synthesis of iron-based nanocatalyst, which can be used for the large scale production of Carbon Nanotubes.
- The group is also working on optoelectronic applications of nanomaterials.
 - In this context, they are working on developing novel nanostructures of carbon and metal dichalcogenides semiconductors for photodetection and Surface-Enhanced Raman spectroscopy (SERS).
 - Through this work, they have demonstrated excellent photodetection behaviour of different architectures of nanoscale MoS₂ for the detection of visible light.
 - The high photoresponsivity obtained in this work can be useful to develop ultrafast detectors for signalling purpose.
- The SERS can help detect harmful molecules present in water at ultra-low concentrations.
 - His group has successfully demonstrated detection of Rhodamine 6G (R6G), an organic laser dye up to lowest limit of sub-nano-molar concentration using rGO and MoS₂ nanomaterials.
- Their focus on energy and optoelectronics devices paves the way for the development of cost-effective and efficient devices, which can be used for energy storage application.
- Their findings make way for materials which can be used as advanced photodetectors and also be used as optical sensors for water pollution control.

6. Flowering plant endemism of Northern Western Ghats

Context:

Study of flowering plant endemism of Northern Western Ghats highlights importance of plateaus in conservation plans.

Details:

- Scientists at the Agharkar Research Institute (ARI), Pune, an autonomous institute of the DST, have come up with plant data of the Northern Western Ghats which indicate that plateaus, in addition to forests, should be prioritized for conservation of the Northern Western Ghats.
- It is the plateaus and the cliffs that harbour most of the endemic species, thus increasing their importance in conservation plans.
- The scientists found that a majority of the endemic species are therophytes, which complete their life cycle in a short period during the monsoons.
- The Western Ghats of India is one of the global biodiversity hotspots owing to the endemism that is sheltered by a chain of mountains.
- The northern part of this biodiversity hotspot, along with the Konkan region, is considerably different from its southern and central counterparts on account of lesser precipitation and extended dry season.
- A notable geographical feature of the Northern Western Ghats is the presence of plateaus and cliffs that display maximum endemic species, unlike forests. Forests of the Northern Western Ghats harbour many species which are not endemic.