

## **1. Gandhi Peace Prize**

### **Why in News?**

- Government extends last date for receipt of nominations for the Gandhi Peace Prize 2020 up to 15.6.2020.

### **Highlights:**

- The Ministry of Culture invites nominations for awarding the Gandhi Peace Prize every year.
- The nominations are to be made in accordance with the provisions of the Code of Procedure for Gandhi Peace Prize as prescribed by the Ministry.
- For the year 2020, the last date for receiving the nominations was 30th April 2020. Due to COVID-19 lockdown throughout the country, the last date has now been extended.

### **Gandhi Peace Prize:**

- The International Gandhi Peace Prize, named after Mahatma Gandhi, is awarded annually by the Government of India.
- As a tribute to the ideals espoused by Gandhi, the Government of India launched the Prize in 1995 on the occasion of the 125th birth anniversary of Mohandas Gandhi.
- This is an annual award given to individuals and institutions for their contributions towards social, economic and political transformation through non-violence and other Gandhian methods.
- The award carries ₹ 1 Crore (10 million) in cash, convertible in any currency in the world, a plaque and a citation.
- It is open to all persons regardless of nationality, race, creed or gender.
- A jury consisting of the Prime Minister of India, the Leader of the Opposition in the Lok Sabha, the Chief Justice of India, Speaker of the Lok Sabha and one other eminent person decides the awardee each year.
- If it is considered that none of the proposals or nominations merit recognition, the jury is free to withhold the award for that year; the award was withheld in the years from 2006 to 2012 inclusive. The first recipient of the award was Tanzanian leader Julius Nyerere, in 1995. The latest recipient (in 2018) was Yōhei Sasakawa of Japan, for his work in leprosy eradication in India and across the world.
- Other awardees include ISRO, Ramakrishna Mission, Akshaya Patra Foundation, Sulabh International, Desmond Tutu, Nelson Mandela, etc.

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## **2. Earth's Inner Core is Rotating**

### **Why in News?**

- A new study based on seismic data from repeating earthquakes and new data-processing methods has revealed that Earth's inner core is rotating. The findings could give detailed insights into the processes that control the planet's magnetic field.

### **Highlights:**

- Temporal changes of inner-core (IC) seismic phases have been confirmed with high-quality waveform doublets. However, the nature of the temporal changes is still controversial.
- In 1996, a small but systematic change of seismic waves passing through the inner core was first detected, which was interpreted as evidence for differential rotation of the inner core relative to the Earth's surface.
- Some studies said that the movement is instead the result of seismic waves reflecting off an alternately enlarging and shrinking inner core boundary, like growing mountains and cutting canyons.
- Scientists reviewed seismic data from a range of geographic locations and repeating earthquakes, called doublets, that occur in the same spot over time.
- This allowed them to categorize between seismic signals that change due to localized variation in relief from those that change due to movement and rotation.
- Scientists found that some of the earthquake-generated seismic waves infiltrate through the iron body underneath the inner core boundary and change after some time, which would not occur if the inner core were stationary.
- These refracted waves change before the reflected waves bounce off the inner core boundary, implying that the changes are coming from inside the inner core. This work confirms that the temporal changes come mostly, from the body of the inner core, and the idea that inner core surface changes are the sole source of the signal changes can now be ruled out.

### **3. Russia Largest Contributor to Space Debris**

#### **Why in News?**

- A new Infographic Reveals which Countries owns the Garbage Floating in space and Russia is responsible for 14,403 pieces and the US comes in second with 8,734.

#### **Highlights:**

- The compiled data shows more than 30,000 particles from satellites, rockets and other man-made devices are orbiting Earth, which is more than double what was found in orbit two years ago.
- Space junk left behind after missions can be as big as spent rocket stages or as small as Paint Flakes.
- With fragments able to travel at speeds above 16,777 mph, even tiny pieces could seriously damage or destroy Satellites.
- In 2018, the compiled data had found that the US had contributed the most space junk with 4,037 and Russia followed with 4,035. However, in just two years, Russia moved to the top spot with 14,403 Pieces.
- The US is in second with 8,734, followed by China 4,688 and France with just 994. India saw an increase with 124 more Particles in the past two years, bringing its total to 517.

#### **Space Junk:**

- There are an estimated 170 million pieces of so-called 'space junk', left behind after missions that can be as big as spent rocket stages or as small as paint flakes, in orbit alongside some US\$700 billion (£555bn) of space infrastructure.
- But only 22,000 are tracked, and with the fragments able to travel at speeds above 16,777 mph (27,000kmh), even tiny pieces could seriously damage or destroy satellites.
- However, traditional gripping methods don't work in space, as suction cups do not function in a vacuum and temperatures are too cold for substances like tape and glue.
- Grippers based around magnets are useless because most of the debris in orbit around Earth is not magnetic.
- Most proposed solutions, including debris harpoons, either require or cause forceful interaction with the debris, which could push those objects in unintended, unpredictable directions.

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- Experts also pointed to two sites that have become worryingly cluttered. One is low Earth orbit which is used by satnav satellites, the ISS, China's manned missions and the Hubble telescope, among others.
  - The other is in geostationary orbit, and is used by communications, weather and surveillance satellites that must maintain a fixed position Relative to Earth.

#### **4. Covid Mat**

##### **Why in News?**

- The Kerala State Coir Corporation has recently announced that it will launch 'Covid Mat' disinfecting floor mat.

##### **About Covid Mat:**

- It is an attempt to prevent pathogens from entering houses, offices, shops, and institutions via feet or footwear's.
- It will sanitise the feet to prevent the spread of Covid-19 virus.
- There are two types of Covid Mat will be launched – one for households and other for institutions.
- The main concept is to put fibre mat/BC20 mat in a holding tray made of rubber or plastic. The disinfectant will be poured over the mat until saturated.
- When a person, barefoot or wearing shoes, steps on the mat, the disinfectant will sanitise it. The water and disinfectant will have to be replaced every three days.
- The BC20 mat are the Bio Combination mats i.e. made through biological/chemical substances.
- The new product is set to give a boost to the coir industry reeling under the impact of Covid-19.
- The commercial production of COVID mats will generate sufficient jobs for weavers.

## 5. Fluorometer Device

### Why in News?

- The researchers at the Indian Institute of Science (IISc), Bengaluru has recently developed a low-cost **Fluorometer device** to detect the presence of melamine (adulterate) in milk and dairy products.

### About Fluorometer Device:

- It is a device used to measure parameters of visible spectrum fluorescence i.e. intensity and wavelength.
- It is used to identify the presence and the amount of Specific molecules in a medium.
- It can be used to detect biomolecules and proteins using the copper nanoparticles.
- It can also be modified to detect other substances such as lead and mercury.
- It can also be deployed as a screening tool for environmental and food quality testing.
- India is the world's largest producer and consumer of milk.
- It will able to detect up to 0.1 parts per million (ppm) of melamine in water and milk, which is much lower than the acceptable limit of 1 ppm.



### Functioning:

- The Copper nanoparticles are added to the specified DNA (double stranded) template of the milk and the sample is tested using the fluorometer.
- It is observed that the presence of melamine in the sample disrupted the synthesis of copper nanoparticles on double stranded DNA and caused a reduction in the intensity of fluorescence, which was detected by the fluorometer.
- These nanoparticles possess a property called fluorescence in which a material emits light of a different wavelength (colour) when a particular wavelength of light falls on it.

### Melamine:

- It is an organic base chemical most commonly found in the form of white crystals rich in nitrogen.
- It is widely used in plastics, adhesives, countertops, dishware, whiteboards.

## 6. River Nila

### Why in News?

- Recently, the Ministry of Tourism organised a webinar- 'Exploring River Nila' as a part of the Dekho Apna Desh Webinar series.

### Key Points:

- River Nila is also known as Bharathapuzha and Ponnani.
- **Origin:** Amaravathipuzha originating from Thrimoorthy Hills of Anamalai in Tamil Nadu joins with Kalpathipuzha at Parali in Palakkad District and forms Nila.
- **Drainage Area:** Kerala and Tamil Nadu.
- It flows westward through Palakkad Gap (most prominent discontinuity in the Western Ghats) and drains into the Arabian Sea.
- Malampuzha dam is the largest among the reservoirs built across Bharathapuzha.
- **Main Tributaries:** Kannadipuzha (Chitturpuzha), Kalpathipuzha (Korapuzha), Gayathripuzha and Thuthapuzha

