

## 05 December 2019: PIB Summary & Analysis

### National Florence Nightingale Awards

#### Context:

The President of India Dr. Ramnath Kovind presented the National Florence Nightingale Awards.

#### Details:

- The World Health Organisation has announced **2020 as the Year of the Nurse and Mid-wife**.
- 2020 will also mark the 200<sup>th</sup> birth anniversary of Florence Nightingale.
- Florence Nightingale, the founder of modern nursing, was born on May 12, 1820 and hence this day is celebrated as International Nurses Day all over the world.

#### About the National Florence Nightingale Awards:

- The Government of India instituted these awards in 1973.
- They are named after Florence Nightingale, the founder of modern nursing, and the very icon of selfless care.
- The award carries Rs 50000 cash, a certificate, a citation certificate and a medal.

### Neutrino Observatory

#### Context:

The India based Neutrino Observatory is being planned in the Theni district of Tamil Nadu.

#### About the Neutrino Observatory:

- The India-based Neutrino Observatory (INO) Project is a multi-institutional effort aimed at building a world-class underground laboratory with a rock cover of approximately 1200 m for non-accelerator based high energy and nuclear physics research in India.
- The project is jointly funded by the Department of Atomic Energy (DAE) and the Department of Science and Technology (DST), Govt. of India.
- The initial goal of INO is to study neutrinos.
- The development of detector technology and its varied applications is an important aspect of the project. The detector R&D, electronics and control, magnet design as well as physics studies and numerical simulations related to ICAL detector are being done in-house at various participating institutions.
- The development of human resources has already started in the form of the INO Graduate Training Programme (GTP) under the umbrella of the Homi Bhabha National Institute (HBNI), a deemed-to-be University within DAE.
- More than 50 scientists from about 15 Institutes and Universities in India have come together to form the **National Neutrino Collaboration group (NNCG)**. This group has the task of detailing various aspects related to INO activity and come up with a proposal for the underground neutrino laboratory.
- The site was selected because of its proximity to the earth's equator. This can have some very interesting consequences for solar neutrinos which would then pass through the core of the Earth in

their passage to the detector from the Sun at night.

### What are neutrinos?

- Neutrinos are fundamental particles belonging to the lepton family.
- They come in three flavours; one associated with electrons and the others with their heavier cousins the muon and the Tau.
- According to the standard model of particle physics, they are massless.
- However, recent experiments indicate that these charge-neutral fundamental particles have finite but small mass which is unknown.
- They oscillate between flavours as they propagate.
- Determination of neutrino masses and mixing parameters is one of the most important open problems in physics today.

### Why INO?

- Neutrino detectors around the world seem to see evidence that these weakly interacting, little-understood particles are not really massless, as was thought so far.
- Not only do they have non-zero masses, but different species (or flavours) of neutrinos also seem to mix and oscillate into one another as they traverse through the cosmos.
- If this is true, this is not only one of the first pieces of evidence for physics beyond the so-called Standard Model of Particle Physics but would also have a great impact on diverse fields such as nuclear and particle physics, astrophysics and cosmology.
- It is thus imperative to study the details of the interactions of these particles.

## BRICS Remote Sensing Satellite Constellation

### Context:

The space agencies of [BRICS](#) nations have been negotiating a Framework Agreement to formalize the cooperation on building a 'virtual constellation of remote sensing satellites', made up of satellites contributed by BRICS space agencies.

### Details:

- The plan was first mooted by China to improve co-operation around natural disasters.
- But it took shape later when BRICS space agencies agreed to build a "virtual constellation of remote sensing satellites".
- The Indian space Ministry has indicated major progress in terms of establishing a BRICS satellite for various applications including natural resources management and disaster management.
- The **purpose of the proposed virtual constellation** is to get access to satellite remote sensing data, which could be used by the individual BRICS nations for various applications including natural resources management and disaster management.
- Currently, only Brazil, Russia, India and China have remote-sensing satellites in the sun-synchronous orbit, and they will provide data to South Africa, which does not have a satellite of its own.

## Investor Education & Protection Fund Authority (IEPFA)

### Context:

IEPFA signed an MoU with the Bank of Baroda for investor awareness.

### About the IEPFA:

- The IEPFA is under the Ministry of Corporate Affairs.
- It was established in 2016 by the GOI for the administration of the Investor Education and Protection Fund under the provisions of section 125 of the [Companies Act, 2013](#).
- The Authority is entrusted with the responsibility of administration of the Investor Education Protection Fund (IEPF), make refunds of shares, unclaimed dividends, matured deposits/debentures, etc. to investors and to promote awareness among investors.
- Secretary, Ministry of Corporate Affairs is the ex-officio Chairman of the Authority. Apart from the Chairperson, the Authority comprises five members, the CEO and other officers and staff.
- IEPF has been set-up under Section 205C of the Companies Act, 1956 by way of the Companies (Amendment) Act, 1999.

## Exercise INDRA 2019

### Context:

Exercise INDRA 2019, a joint, tri-services exercise between India and Russia will be conducted in India in December 2019 simultaneously at Babina (near Jhansi), Pune, and Goa.

### About Exercise INDRA:

- The INDRA series of exercise began in 2003 and the First joint Tri-Services Exercise was conducted in 2017.
- The objective of the exercise is to imbibe the best practices from each other, jointly evolve drills to defeat the scourge of terror under the United Nations mandate.

## Women Help Desks in Police Stations

### Context:

Home Ministry sanctions Women Help Desks in Police Stations across the country.

### Details:

- The Ministry of Home Affairs has sanctioned a sum of Rs. 100 crores from the [Nirbhaya Fund](#) for setting up/strengthening of Women Help Desks in Police Stations.
- This scheme would be implemented by the States and Union Territories.
- Women Help Desks would focus on making the Police Stations more women-friendly and approachable, as they would be the first and single point of contact for any woman walking into a police station.

- Essentially, lady police officers would be deployed at these help desks.
- The officials of the Women Help Desk would be trained to be sensitive towards women.
- These help desks would have enlisted panel of experts like lawyers, psychologists and NGOs to facilitate legal aid, counselling, shelter, rehabilitation and training, etc.

## Artificial Intelligence

### Context:

Artificial Intelligence has been introduced as a subject in class IX from the session 2019-20 in the schools affiliated with CBSE.

### Details:

- In order to enhance multidisciplinary approach in teaching-learning and to sensitize the new generation, Artificial Intelligence has been introduced as a subject in class IX from the session 2019-20 in the schools affiliated with the Central Board of Secondary Education (CBSE).
- A twelve hours 'Inspire' module on Artificial Intelligence has also been announced, which schools can take up with the students of class VIII.

To know more about [Artificial Intelligence](#), click on the linked article.

## Hydrogen Fuel Cell Cars

### About Hydrogen Fuel Cell Cars:

- Unlike conventional vehicles which run on gasoline or diesel, fuel cell cars and trucks combine hydrogen and oxygen to produce electricity, which runs a motor. Since they are powered entirely by electricity, fuel cell vehicles are considered electric vehicles ("EVs")—but unlike other EVs, their range and refueling processes are comparable to conventional cars and trucks.
- **Converting hydrogen gas into electricity produces only water and heat as a by-product**, meaning fuel cell vehicles don't create tailpipe pollution when they're driven.
- Producing the hydrogen itself can lead to pollution, including greenhouse gas emissions, but even when the fuel comes from one of the dirtiest sources of hydrogen, natural gas, today's early fuel cell cars and trucks can cut emissions by over 30 percent when compared with their gasoline-powered counterparts.
- Hydrogen fuel cell vehicles combine the range and refueling of conventional cars with the recreational and environmental benefits of driving on electricity.

### Differences between fuel cell cars and other EVs:

- Battery-powered electric cars and hydrogen fuel cell vehicles have both seen advances in their development, and one or both of these technologies may represent the future of "green" automobiles.
- Both technologies offer a cleaner alternative to internal combustion engines, and both use electric motors powered by electrochemical devices.
- One difference between them is that electric vehicles use energy stored in a battery, whereas fuel cell vehicles have stored fuel that reacts to produce energy.
- Whereas conventional vehicles burn fuel in an internal combustion engine, battery-powered electric

vehicles don't have an engine. Instead, they use energy stored in batteries to power one or more electric motors.

- Fuel cell vehicles are also driven by an electric motor, but instead of being powered by a battery, they create the electricity in an onboard fuel cell, usually using oxygen from the air and stored hydrogen.
- Fuel cells use a catalyst to combine two reactants, which generates a flow of electrons (i.e. electricity).
- A variety of fuels can be used to support fuel cells, but the most common is hydrogen that is produced from natural gas.
- When oxygen and hydrogen react, they produce only water and heat, making them "zero-emissions" vehicles (like battery-powered electric vehicles).

**Context:**

The Union Minister of Petroleum and Natural Gas and Steel experienced a test drive of Hydrogen Fuel Cell based car manufactured by Toyota Kirloskar.

## Head on Generation (HOG) Technology

**Context:**

Over 500 trains in India are running with HOG scheme.

**About the HOG Scheme:**

- In HOG scheme, power is fed from the electric locomotive to the train to cater to the Hotel Load of the train.
- Here, the train's 'hotel load' (the load of air conditioning, lights, fans, and pantry, etc.) is run by drawing electricity from the overhead electric lines through the pantograph.
- Under the current **Under the End on Generation (EOG) system**, the train's 'hotel load' is provided with electricity from two large diesel generator sets, which supply 3-phase power at 750 Volts 50 Hz to the entire length of the train.

**Benefits of HOG:**

- Since the HOG-fitted trains do not require power from diesel generators at all, they only have one emergency generator car attached, instead of two regular generator cars.
- The extra space created implies more passengers can be accommodated.
- There are savings to the tune of over Rs.1100 crores per annum with the conversion of 500 trains into the HOG system.
- This system is free of air and noise pollution.
- The reduction in emissions could also help the Railways accrue carbon credits, and trade them on the international market.

## Green Express Ways

**Context:**

The Government of India approved Bharatmala Pariyojana Phase-I in October 2017. This and related information was provided by the Union Minister of Road Transport & Highways in the Lok Sabha.

To know more about the Bharatmala Pariyojana programme, click [here](#).

## Tribals Residing Outside Tribal Majority Blocks

### Context:

The Tribal Health in India report by the Ministry of Health and Family Welfare in November 2018 stated that over half of the country's 104 million tribal population resides outside the country's 809 tribal majority blocks.

### Details:

- In order to have all Institutes/Centres working in the field of tribal health on a single platform, the Indian Council of Medical Research (ICMR), Ministry of Health and Family Welfare established Tribal Health Research Forum (THRF) in 2010.
  - The THRF is committed to prioritising research addressing specific health needs of the tribal population.
- Centres under the THRF and the National Institute of Research in Tribal Health (NIRTH), along with Tribal Health Research Units (THRUs) established by ICMR, function with an overall mandate to improve tribal health through diagnosis and develop strategies for management in their sub-population with emphasis on various infectious diseases as well as non-communicable diseases, apart from haemoglobinopathies, nutrition and maternal and child health, etc.
- These units worked to outline the health problems of tribal population and generated evidence for policy change.

Also read: [UPSC Notes: Economic Empowerment of STs \(Scheduled Tribes\)](#)

## Launch of 'Going Online as Leaders' Programme

### Context:

GOAL (Going Online as Leaders) is a digitally-enabled mentorship initiative of Facebook for empowering tribal youth to become leaders for tomorrow in the respective fields.

To know more about the GOAL programme, check [PIB dated Oct 16, 2019](#) under the headline: "GOAL (Going Online As Leaders) Programme".

## National Commission for Protection of Child Rights (NCPCR)

### Context:

The NCPCR has conducted a Study on Education and Vocational Training of Children staying at

To know more about the National Commission for Protection of Child Rights, click [here](#).

## Crimes against Children

### Context:

The Government of India has legislated various child-centric Acts such as the Commissions for Protection of Child Rights Act (CPCR) 2005, Protection of Children from Sexual Offences (POCSO) Act, 2012 and the Juvenile Justice (Care and Protection of Children) Act, 2015 (JJ Act) for protection and promotion of child rights.

### Details:

- While the JJ Act, 2015 ensures the safety, security, dignity and well-being of children, the POCSO Act, 2012 is a comprehensive law that provides protection to children from the offences of sexual assault, sexual harassment and pornography.
- It safeguards the interests of the child at every stage of the judicial process by incorporating child-friendly mechanisms for reporting, recording of evidence, investigation and speedy trial of offences through designated Special Courts.

To know more about the POCSO Act, click [here](#).

## Fit India Plogging Run

### Context:

Fit India Plogging Run, launched in October 2019 concluded in Delhi, after having covered 50 cities across India.

To know more about the Fit India Plogging Run, check [PIB dated September 30<sup>th</sup>, 2019](#), under the headline: “Fit India Plog Run”.

## Fifteenth Finance Commission

### Context:

The Fifteenth Finance Commission submits its report for 2020-21 to the President of India.

### Details:

- The 15<sup>th</sup> Finance Commission was constituted by the President of India under Article 280 of the Constitution in November 2017 to make recommendations for a period of five years from 1<sup>st</sup> April

To know more about the [15<sup>th</sup> Financial Commission](#), click on the linked article.

**Also read the following related articles:**

[Finance Commission of India](#)

[Permanent Status To Finance Commission](#)

## India's first HAM project in sewerage sector

### Context:

The country's first HAM project (hybrid annuity PPP model) completed before time in Haridwar.

### Details:

- The Sarai 14 MLD Sewage Treatment Plant (STP) is the first STP to be completed under the Hybrid Annuity (HAM) Based Public Private Partnership Model.
- This Plant is based on advanced aerobic biological process, Sequential Batch Reactor (SBR) process, capable of removing the nutrients during treatment and is a 100% eco-friendly project.
- The plant will meet the highest standards of output parameters.
- Another unique feature of this HAM project is that after its commissioning, this plant will also be maintained and operated for a period of 15 years by the same developer for efficient performance and for meeting output parameters.
- The vision of the National Mission for Clean Ganga (NMCG) is long-term and hence the capability being created would fully take care of the requirements up to 2035.
- **Municipal sewage, being the main source of pollution in the Ganga**, is being tackled through 150 Sewerage projects at a cost of more than Rs. 23,000 crores (more than 3 billion USD), in addition to various interventions for checking industrial and other sources of pollution in the Ganga basin.

