

**COVID- 19 NEWS****eCovSens**

Researchers from the National Institute of Animal Biotechnology (NIAB), Hyderabad, have developed a biosensor that can detect the novel coronavirus in saliva samples.

**About:**

- The new portable device named eCovSens, can be used to detect the presence of novel coronavirus antigens in human saliva within 30 seconds using just 20 microlitres of the sample.
- The in-house built biosensor consists of a carbon electrode and the coronavirus antibody. The antibody is capable of binding with the spike protein found on the outer layer of the virus. An electrical signal is generated when the antigen and antibody binds.
- Biosensors have been currently used across the world to detect toxins, narcotic drugs, and are also considered as a reliable tool to detect infectious diseases.

**Atulya**

Defence Institute of Advanced Technology (DIAT), Pune, a deemed university supported by Defence Research and Development Organisation (DRDO) has developed 'ATULYA' as a cost-effective solution to disintegrate corona virus.

**About:**

- A microwave steriliser named as 'ATULYA' can be operated in portable or fixed installations and helps in disintegrating the virus by differential heating in the range of 56 to 60 Celsius temperatures.
- Atulya is safe to use in Home and Office. It can be used on any surface except metal.

**Concerns Over Use of BCG Vaccine: WHO**

The World Health Organization (WHO) has highlighted a few critical issues over the use of BCG vaccine for Covid-19. BCG, or bacille Calmette-Guerin, is a vaccine for tuberculosis (TB) disease.

**Key Points**

- WHO emphasizes the importance of randomised controlled trials of the vaccine to understand its safety and efficacy before using it on healthcare workers.
  - Randomised controlled trials using BCG vaccine are under way in the Netherlands and Australia to find out whether the vaccine can reduce the incidence and severity of Covid-19.
- According to an earlier study, there is an association between countries that have a universal BCG vaccination and reduced coronavirus cases.
  - It argues that countries that have deployed the BCG vaccine in their immunisation programmes have seen fewer deaths from Covid-19.
  - The BCG vaccine enhances the innate immune response to subsequent infections which might reduce viral load after Covid-19 exposure, with a consequent less severe Covid-19 and more rapid recovery.

**Views in India:**

- According to the Translational Health Science and Technology Institute (THSTI), Faridabad, the vaccine can prevent intracellular infections, so its protective effects against Covid-19 is a biologically plausible hypothesis.
- It will be premature for India, that has had a consistent TB vaccination policy since 1968, to take comfort from the study.
- Five reasons countries should wait for the results of the BCG vaccine randomised controlled trials:
  - The association of fewer Covid-19 cases in countries that have a universal BCG vaccination programme is based on population rather than individual data.
  - The benefits of the BCG vaccine given at birth are unlikely to reduce the severity of Covid-19 decades later.

- The beneficial effects of the BCG vaccine might be altered by subsequent administration of a different vaccine and become less effective after longer periods.
- There is a remote possibility that the BCG vaccine ramps up the immune system leading to worsening of Covid-19 in a small population of patients with a severe disease.
  - Coronavirus induces cytokine storm in some patients, leading to further complications and even death.
- If BCG vaccination is not effective against the novel coronavirus, it is likely to give a false sense of security to people, especially during the pandemic.
- Using the vaccine without evidence of its benefits could further jeopardise the already short supply of the BCG vaccine.

## **INDIAN HERITAGE AND CULTURE, HISTORY**

### **Jamini Roy**

National Gallery of Modern Art pays tribute to the pioneering artist Jamini Roy on his 133rd Birth Anniversary year through virtual tour.

#### **About:**

- Jamini Roy (1887 – 1972) was an Indian painter.
- He was one of the most famous pupils of Abanindranath Tagore.
- He preferred himself to be called a patua.
- Initially he experimented with Kalighat paintings but found that it has ceased to be strictly a "patua" and went to learn from village patuas.
- Consequently, his techniques as well as subject matter was influenced by traditional art of Bengal.

#### **Awards and Honours:**

- He was honoured with the State award of Padma Bhushan in 1955.
- In 1955, he was made the first Fellow of the Lalit Kala Akademi, the highest honour in the fine arts conferred by the Lalit Kala Akademi, India's National Academy of Art, Government of India.
- In 1976, the Archaeological Survey of India, Ministry of Culture, Govt. of India declared his works among the "Nine Masters" whose work, to be henceforth considered "to be art treasures, having regard to their artistic and aesthetic value".

## **GEOGRAPHY- PHYSICAL AND ECONOMIC**

### **The Bay Of Bengal Boundary Layer Experiment (BOBBLE)**

A team from Indian Institute of Science in Bengaluru and UK based University of East Anglia have created a blueprint for accurate prediction of monsoon, tropical cyclones and other weather related forecast.

#### **About:**

- The Bay of Bengal Boundary Layer Experiment or BoBBLE in short is a project funded by Union Ministry of Earth Sciences and the Natural Environment Research Council of UK.
- The team carried out studies of oceanographic properties on board RV Sindhu Sadhana in the southern Bay of Bengal. After which a blueprint for future weather system observational experiments was created for accurately forecasting rainfall.

### **Gorakhpur Terracotta**

The famed Gorakhpur Terracotta art has bagged the Geographical Indication (GI) tag.

#### **About:**

- The famed baked clay or 'terracotta' products made from the special soil found in Bhathat area of Uttar Pradesh's Gorakhpur district got the Geographical Indication (GI) tag.
- Terracotta products are a major source of income for the residents of Aurangabad area in this district.
- The terracotta artists make various structures like bells, vases, Ganeshas, tables, elephants, deer, horses, bullock carts, horse carts, lamps and chandeliers.

**GOVERNANCE- WELFARE SCHEMES, E-GOVERNANCE, SERVICES ETC.****Sankalp Scheme**

In Madhya Pradesh, the Umaria police have launched a Sankalp Scheme to provide 24-hour help to the elderly, amid the lockdown.

**About:**

- Under the Sankalp Scheme, Superintendent of Police has instructed all police officers to identify and help one or two elderly families who are living alone and are worried about their everyday needs during the lockdown.
- Under the Sankalp Scheme, it is trying to connect police personnel along with every elderly member of the family.
- The police got the inspiration for the Sankalp Scheme from an elderly woman, who was worried for her medicines. The elders are also happy with this innovative effort of the police.

**SOCIO-ECONOMIC DEVELOPMENT****Forex Reserves**

According to the recent data from the Reserve Bank of India, India's Foreign Exchange (Forex) reserves declined by \$113 million to \$479.45 billion in the week to 24 April, 2020 due to a fall in foreign currency assets.

**Key Points**

- Changes in forex reserves holdings.
  - The foreign currency assets (FCAs) decreased by \$321 million to \$441.56 billion.
  - Gold reserves rose by \$221 million to \$32.901 billion.
  - The special drawing rights with the International Monetary Fund (IMF) fell by \$6 million to \$1.42 billion.
  - The country's reserve position with the IMF also was down by \$8 million to \$3.57 billion.
- Earlier, the reserve had touched a life-time high of \$487.23 billion in the week ended by 6 March, 2020.
- During 2019-20, the country's foreign exchange reserves rose by almost \$62 billion.

**Foreign Exchange Reserves**

- Foreign exchange reserves are assets held on reserve by a central bank in foreign currencies, which can include bonds, treasury bills and other government securities.
  - It needs to be noted that most foreign exchange reserves are held in U.S. dollars.
- These assets serve many purposes but are most significantly held to ensure that the central bank has backup funds if the national currency rapidly devalues or becomes altogether insolvent.
- India's Forex Reserve include:
  - Foreign Currency Assets
  - Gold reserves
  - Special Drawing Rights
  - Reserve position with the International Monetary Fund (IMF)

**PRELIMS SPECIFIC FACTS- INDICES, DAYS, EVENTS, AWARDS ETC****Chuni Goswami**

Legendary Footballer Chuni Goswami died in Kolkata on after prolonged illness. He was 82.

**About:**

- Chuni Goswami was the captain of gold medal winning Indian football team of Jakarta Asiad held in 1962. He was also the captain of Bengal Ranji Cricket team. He was also Sheriff of Kolkata.
- He was awarded Arjun, Padmasree and several others prestigious awards for his outstanding contributions in the field of Sports. He received Mohonbagan Ratna awards in 2005.

- The West Bengal Government conferred him the highest civilian award Banga Bibhusan in 2013 .

**DAILY ANSWER WRITING PRACTICE**

**Qns. Discuss the role that rural centric policies can play in reaping India's demographic dividend.**

**Answer :**

Demographic Dividend is a stage in demographic transition of a country where the working age population is more than the dependency ratio. India's average age at 28 years and such a demographic dividend is expected to last for nearly 35 years. Approximately two-third of India's population resides in rural areas. In this context, it becomes important to focus on rural areas for reaping such dividends.

- Better health status leads to increased productivity of labour leading to an efficient economy.
  - Rural India faces challenges of malnutrition, skewed female health indicators like maternal mortality, anemia etc. This lowers labour's productivity.
  - Programmes like Ayushman Bharat, Poshan Abhiyan, focus on female health will increase their productivity and labour force participation ratio.
- Better education and skills leads to ability to find work in the market.
  - Rural India has skewed schooling outcomes highlighted in the ASER report.
  - The skills needed to work in the secondary and tertiary sector are also lacking leading to over dependence on the primary sector.
  - Programmes like Skill India, reforms in schooling system as highlighted by Kasturirangan Committee would lead to labour moving out of agriculture and development of the manufacturing and service sector.
- Good infrastructure leads to better ability to utilise resources and transmission of information.
  - Rural India shows contrast in terms of development as compared to urban areas as a result labour have limited mobility, opportunity and know-how of newer economic opportunities.
  - Programmes like PM-Gram Sadak Yojana, PURA, Bharatnet etc. can overcome these challenges and increased opportunity for labour.
- Investment in Agriculture leads to generation of growth poles and increase of quality opportunities in rural areas.
  - Although agriculture is not seen as a remunerative occupation, through advances in innovation, capacity-building, partnership and participatory approaches, better market linkages and, most importantly, by developing a synergy with other sectors of the economy, many employment and entrepreneurial opportunities can be created.
- In order to develop rural areas, there is a need for a convergent approach. For example:
  - Strengthening local governance and decentralised decision making by way of more powers and funds to Panchayats. Special grant can be given to areas covered under PESA and scheduled areas.
  - Sensitizing the governance process at central and state level by incorporating rural specific ramifications in every decision making like that of Gender Budgeting.
  - Bringing an urban ecosystem and experience like the culture of startups to rural areas.

**Conclusion**

India's demographic dividend cannot work without including its working population in remunerative activities. This would need actions based on the pull factor as discussed above to help labour move towards newer opportunities along with push factors that lowers dependency of agriculture like mechanisation, land pooling policy etc.