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## **1. Payroll Reporting in India: An Employment Perspective**

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

- National Statistical Office (NSO), Ministry of Statistics and Programme Implementation has released the ‘Payroll Reporting in India: An Employment Perspective’, covering the period September, 2017 to January, 2020.

### **Background:**

- The report has been published since 2018 to give employment related statistics in the formal sector.
- The report is based on the number of subscribers who have subscribed under three major schemes, namely
  - The Employees’ Provident Fund (EPF) Scheme
  - The Employees’ State Insurance (ESI) Scheme and
  - The National Pension Scheme (NPS).
- The report is used to assess the progress in certain dimensions like formal sector employment and contribution of the private sector in creating new employment in the country.

## **2. Stay Home India with Books initiative**

### **Why in News?**

- The National Book Trust of HRD Ministry, in its efforts to encourage people to read books while at home during the COVID-19 national lockdown, has launched the ‘Stay Home India with Books’ initiative.

### **Highlights:**

- NBT is providing its select and best-selling titles for free download as part of its initiative of #StayHomeIndiaWithBooks
- With Lock Down ruled by the central government to contain the spread of Corona Virus, the Ministry of HRD has uploaded more than 100 books on the NBT website to help people spend quality time at home.

### **The National Book Trust (NBT):**

- Established by the Government of India (Department of Higher Education, Ministry of Human Resource Development) in the year 1957.

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- NBT plays an important role in promoting books and the habit of reading by organizing book fairs and exhibitions throughout the country since the last five decades.

#### **The objectives of the NBT:**

- To produce and encourage the production of good literature in English, Hindi and other Indian languages
- To make such quality literature available at moderate prices to the public
- To bring out book catalogues, arrange book fairs/exhibitions and seminars and take all necessary steps to make the people book minded.

### **3. Ozone Layer Healing**

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

- The ozone layer above Antarctica has recovered so much, it's actually stopped many worrying changes in the Southern Hemisphere's atmosphere, according to a new study.

#### **Highlights:**

- A new study suggests the Montreal Protocol, the 1987 agreement to stop producing ozone depleting substances (ODSs), could be responsible for pausing, or even reversing, some troubling changes in air currents around the Southern Hemisphere.
- Before the turn of the century, ozone depletion had been driving the southern jet stream further south than usual. This ended up changing rainfall patterns, and potentially ocean currents as well.
- Using a range of models and computer simulations, researchers have now shown this pause in movement was not driven by natural shifts in winds alone.
- In Australia, for instance, changes to the jet stream have increased the risk of drought by pushing rain away from coastal areas.
- If the trend does reverse, those rains might return. While improvements in cutting back our reliance on ODSs have certainly allowed the ozone to recover somewhat, carbon dioxide levels continue to creep upwards and place all that progress at risk.
- Last year, the Antarctic ozone hole hit its smallest annual peak on record since 1982, but the problem isn't solved, and this record may have something to do with unusually mild temperatures in that layer of the atmosphere.

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- The Montreal Protocol is proof that if we take global and immediate action we can help pause or even reverse some of the damage we've started. Yet even now, the steady rise in greenhouse gas emissions is a reminder that one such action is simply not enough.

#### **4. Microbes Beneath Ocean Floor**

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

- In a study, scientists have described how micro-organisms survive in rocks nestled thousands of feet beneath the ocean floor in the lower oceanic crust.

##### **Highlights:**

- Organisms seeking out an existence far beneath the sea floor live in a hostile environment. Very little resources find their way into the seabed through seawater and subsurface fluids, which circulate through fractures in the rock and carry inorganic and organic compounds.
- The discoveries were made as part of the International Ocean Discovery Program (IODP), which studies samples of rock and sediment taken from beneath the seafloor.
- Normally, it's to investigate the historic climate records preserved there, but in this case an international team of scientists found evidence of life.
- The first analysis of messenger RNA, the genetic material containing instructions for making different proteins, from this region, coupled with measurements of enzyme activities, microscopy, cultures and biomarker analyses, has provided evidence of a low biomass but diverse community of microbes that includes heterotrophs that obtain their carbon from other living (or dead) organisms.
- The researchers travelled to Atlantis Bank, an underwater ridge that cuts across the southern Indian Ocean.
- Tectonic activity there exposes the lower oceanic crust at the sea floor, providing convenient access to an otherwise largely inaccessible realm. By isolating messenger RNA and analysing the expression of genes, the researchers found evidence that microorganisms under the ocean floor express genes for various survival strategies.
- Some microbes appeared to have the ability to store carbon in their cells for use in times of shortage Others showed indications they could process nitrogen and sulphur to generate energy, produce Vitamin E and B12, recycle amino acids, and pluck out carbon from the hard-to-break-down compounds called polyaromatic hydrocarbons.

- This environment and lower oceanic crust are comprised largely of types of material called gabbro and peridotite, and these allow for some chemical reactions that were likely present on early Earth and also on other planets where water and volcanic rocks interact.
- The findings provide a complete picture of carbon cycling by illuminating biological activity deep below the oceans.

## **5. Capital to Risk Weighted Assets Ratio (CRAR)**

### **Why in News?**

- The Cabinet Committee on Economic Affairs has given its approval for continuation of the process of recapitalization of Regional Rural Banks (RRBs) by providing minimum regulatory capital to RRBs which are unable to maintain minimum Capital to Risk weighted Assets Ratio (CRAR) of 9%, as per the regulatory norms prescribed by the RBI.

### **CRAR:**

- CRAR also known as Capital Adequacy Ratio (CAR) is the ratio of a bank's capital to its risk.
- CRAR is decided by central banks and bank regulators to prevent commercial banks from taking excess leverage and becoming insolvent in the process.
- The Basel III norms stipulated a capital to risk-weighted assets of 8%.
- In India, scheduled commercial banks are required to maintain a CAR of 9% while Indian public sector banks are emphasized to maintain a CAR of 12% as per RBI norms.
- It is arrived at by dividing the capital of the bank with aggregated risk-weighted assets for credit risk, market risk, and operational risk.
- RBI tracks CRAR of a bank to ensure that the bank can absorb a reasonable amount of loss and complies with statutory Capital requirements.
- The higher the CRAR of a bank the better capitalized it is.

### **Why Recapitalize RRBs?**

- RRBs are primarily catering to the credit and banking requirements of agriculture sector and rural areas with focus on small and marginal farmers, micro & small enterprises, rural artisans and weaker sections of the society.
- A financially stronger and robust RRB with improved CRAR will enable them to meet the credit requirement in the rural areas.

- As per RBI guidelines, the RRBs have to provide 75% of their total credit under PSL (Priority Sector Lending).
- In addition, RRBs also provide lending to micro/small enterprises and small entrepreneurs in rural areas.
- With the recapitalization support to augment CRAR, RRBs would be able to continue their lending to these categories of borrowers under their PSL target, and thus, continue to support rural livelihoods.

## **6. Legacy Waste**

### **Context:**

- The National Green Tribunal (NGT) has recently directed a committee to assess the amount of damage caused to the environment due to the dump sites (legacy waste) in Delhi. The committee consist of members from the Central Pollution Control Board, National Environmental Engineering Research Institute (NEERI) and IIT Delhi.

### **About Legacy Wastes:**

- These are the wastes that have been collected and kept for years at some barren land or a place dedicated for Landfill (an area to dump solid waste).
- This waste can be roughly grouped into **Four Categories** that is Contained and/or stored waste (contained or stored waste are wastes in tanks, canisters, and stainless steel bins), Buried waste, Contaminated soil and groundwater and Contaminated building materials and structures.

### **About Environmental Impact of Legacy Waste:**

- These wastes not only occupy large space, but also become a breeding ground for pathogens, flies, malodours and generation of leachate, which may lead to water contamination.
- They also contribute to generation of greenhouse gases and pose risk of uncontrollable fire.

### **About Biomining:**

- This method has been proposed by the Central Pollution Control Board (CPCB) for the effective disposal of legacy wastes
- It is the process of using microorganisms (microbes) to extract metals of economic interest from rock ores or mine waste.
- Its techniques may also be used to clean up sites that have been polluted with metals.[

- It is usually used for old dumped waste that remains in a partly or fully decomposed state with no segregation in existence between wet and dry waste.
- In the cost effective method of Biomining, treatment is done by dividing the garbage heap at the site into suitable blocks to let the air percolate in the heap.
- As a result, the leachate which is the water in the heap with suspended solid particles is drained off and microbes are sprayed in the heap to initiate biological decompositions.
- The waste is turned over several times in order to devoid the waste to leachate as much as possible. This biological decomposition of the waste decreases the volume of the waste by 40%.

## 7. Telemedicine Guidelines

### Why in News?

- The Health Ministry has recently issued telemedicine guidelines enabling doctors to write prescriptions based on telephone conversations.

### About:

- It aimed at decongesting healthcare facilities in the wake of Covid-19, will also make healthcare accessible to remote areas in general and make faster intervention possible with the current immobilisation due to coronavirus making hospital and clinic visits difficult.
- It provides information on various aspects of telemedicine, including on technology platforms and tools available to medical practitioners and how to integrate these technologies to provide healthcare delivery.
- It also spells out how technology and transmission of voice, data, images and information should be used in conjunction with other clinical standards, protocols, policies and procedures to provide care.
- Its **Guidelines Specifically Explicitly** exclude the following
  - The Use of digital technology to conduct surgical or invasive procedures remotely
  - Other aspects of telehealth such as research and evaluation and continuing education of healthcare workers
  - Specifications for hardware or software, infrastructure building & maintenance
  - Does not provide for consultations outside the jurisdiction of India

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## **8. Laser Surface Micro-Texturing**

### **Why in News?**

- The International Advanced Centre for Powder Metallurgy & New Materials (ARCI) has developed ultrafast laser surface texturing technology, which can improve the fuel efficiency of internal combustion engines.

### **Laser Surface Micro-Texturing:**

- It offers precise control of the size, shape and density of micro-surface texture features.
- In this technology, a pulsating laser beam creates micro-dimples or grooves on the surface of materials in a very controlled manner.
- Such textures can trap wear debris when operating under dry sliding conditions and sometimes provide effects like enhancing oil supply (lubricant reservoir) which can lower friction coefficients and may enable reduced wear rate.

### **About “International Advanced Research Centre for Powder Metallurgy and New Materials” (ARCI):**

- It is an autonomous research and development centre of the Department of Science and Technology (DST).
- Surface engineering, ceramics, powder metallurgy and laser processing of materials constitute the four major thrust areas at ARCI.
- Its main campus is located at Hyderabad with operations in Chennai and Gurgaon.