

# **PIB** FORTNIGHTLY COMPILATION

# 16<sup>th</sup> - 31<sup>st</sup> MARCH, 2020

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GS Foundation
Optional Subject
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### **1** INDIAN CULTURE PORTAL

- Government has launched **Indian Culture Portal** to showcase rich cultural heritage of India-Shri Prahlad Singh Patel.
- An online portal, namely Indian Culture Portal is launched to showcase information about the rich cultural heritage of India across the globe.
- Language: The Indian Culture Portal is available in two languages i.e. Hindi and English.
- **Content:** The portal will create awareness about both the tangible and intangible cultural heritage of India, through the content available on the portal, which comprises mainly of rare books, e-books, manuscripts, artefacts from museums, virtual galleries, archives, photo archives, gazetteers, Indian National Bibliography, videos, detailed accounts of Indian UNESCO World Heritage site, Musical Instruments of India, write-ups and beautiful pictures on cuisines, festivals, paintings, folk art and classical art from different States of India etc.

### 2 THE CENTRAL SANSKRIT UNIVERSITIES BILL, 2020

- The Central Sanskrit Universities Bill, 2020 has been passed by the Parliament.
- This bill will convert:
  - Rashtriya Sanskrit Sansthan, New Delhi
  - Shri Lal Bahadur Shastri Rashtriya Sanskrit Vidyapeeth, New Delhi
  - Rashtriya Sanskrit Vidyapeeth, Tirupati into Central Sanskrit Universities.
- These 3 universities will have more opportunities to spread the knowledge of Sanskrit language not only in India but also across the world in a better way.
- This will pave way for many people from abroad to learn Sanskrit and Shastraic lore from these prestigious Central Sanskrit Universities in our country.

# **3** AGREEMENT BETWEEN INDIA AND BRUNEI FOR EXCHANGE OF INFORMATION NOTIFIED

The Agreement between the Government of the Republic of India and the Government of Brunei Darussalam for the exchange of information and assistance in collection with respect of taxes has been notified in the Gazette of India (Extraordinary).

### What is in the Agreement?

- The Agreement enables exchange of information, including banking and ownership information, between the two countries for tax purposes.
- It is based on international standards of tax transparency and exchange of information and enables sharing of information on request as well as automatic exchange of information.
- The Agreement also provides for representatives of one country to undertake tax examinations in the other country. Moreover, it provides for assistance in collection of tax claims.
- **Benefits:** The Agreement will enhance mutual co-operation between India and Brunei Darussalam by providing an effective framework for exchange of information in tax matters which will help curb tax evasion and tax avoidance.

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### ARCI SCIENTISTS DEVELOP FRICTION-REDUCING NANOCOMPOSITE COATINGS TO INCREASE DEVICE LIFE

A group of scientists at the International Advanced Research Centre for Powder Metallurgy & New Materials (ARCI) have developed a process for size-selective deposition of nanocomposite coatings which can reduce friction of these dynamic systems.

### What scientists have found?

- The scientists have found that **nickel tungsten-based coatings** with impregnation of particular sized **Silicon Carbide (SiC)** submicron particles using an economical and straightforward pulsed electroplating or electrodeposition process can provide an excellent combination of wear and corrosion resistance with the low friction coefficient and good oil retention capacity.
- The coatings developed by the ARCI group reduced friction more and could withstand corrosion due to salt spray better than many similar wear-resistant coatings available in the market.
- The coating could address the emerging need for coatings with low friction and wear.
- Nanocomposite coatings with hard particles inside a tough matrix result in the best combination of wear resistance and reduced friction.
- However, the size of reinforcement particles is a critical factor in deciding the friction characteristics.
- Too much variation in the size of reinforcement particles in composite coating results in premature failure of the coating due to stress concentration.

### What is Electrodeposition?

- Electrodeposition also called as electroplating, involves the metal parts to be immersed in an electrolyte bath solution, in this case, typically prepared by dissolving crystals of Nickel (Ni) and Tungsten (W) salts in a mix of distilled water and other additives.
- A direct current (DC) was passed through the solution, and the resulting reaction left a deposit of Ni-W alloy on the piece being plated.
- During electrodeposition, a diffusion layer was formed at the cathode surface due to movement and deposition of metallic ions in solution.
- For size-selective electrodeposition, pulse current (PC) electrodeposition intermittent application of current was used in place of conventional direct current (DC) deposition.
- Pulsed currents of certain amplitude and duration helped in depositing coatings of desired properties, which would not be possible with conventional DC plating.

### 5

## STARCH-BASED MATERIALS DEVELOPED TO STOP RAPID BLOOD LOSS DURING ACCIDENTS

- Scientists from the Institute of Nano Science and Technology (INST) have developed a starch-based 'hemostat' material that concentrates the natural clotting factors in blood by physically absorbing excess fluid.
- The biodegradable microparticles that combine to form a gel on a wound offer significant improvements over existing alternatives.
- The product has increased absorption capacity, improved absorption, inexpensive, biocompatible as well as biodegradable.

- Hemostat materials absorb excel fluid by concentrating the natural clotting factors in the blood that are critical for stopping the blood flow; however, the bleeding can restart when non-biodegradable materials are removed.
- By chemically modifying natural starch to form microparticles, the team has combined the advantages of biocompatibility and biodegradability with a five- to ten-fold increase in fluid absorption and much-improved adhesion.
- When the microparticles combine, they create an adherent gel that can remain on the wound until slowly dissipating as healing proceeds.

### **6** ORDNANCE FACTORIES

- Ordnance Factories have observed their 219th foundation day today.
- The first Ordnance Factory, now known as the 'Gun and Shell Factory' at Cossipore in Kolkata was established on this day in 1801.
- The Ordnance Factories are a conglomerate of 41 ordnance factories under the aegis of its corporate headquarters Ordnance Factory Board (OFB) in Kolkata.
- The OFB came into existence on April 2, 1979 in the new avatar.
- Since their inception, the Ordnance Factories have evolved as one of the largest defence manufacturing conglomerates in the world with more than 90 per cent of indigenous content and a strong technological and R&D infrastructure that currently contributes to 25 per cent of the revenue.
- The Ordnance Factories have been catering to the needs of the Armed Forces for more than two centuries by providing them with arms, ammunition and equipment and will continue to so in future.

### WORLD CONSUMER DAY

- March 15 is celebrated as the World Consumer Rights Day throughout the world. The Ministry of Consumer Affairs, Government of India observed this day with the theme, 'The Sustainable Consumer'.
- World Consumer Rights Day was inspired by President John F Kennedy, who sent a special message to the US Congress on 15th March 1962, in which he formally addressed the issue of consumer rights. He was the first world leader to do so.
- The consumer movement first marked that date in 1983 and now uses the day every year to mobilise action on important issues and campaigns.

### 8 TECH FOR TRIBALS

- TRIFED has launched transformational "Tech For Tribals" program in partnership with Institutes of National Importance (INIs) to develop Tribal entrepreneurship
- Tech for Tribals, an initiative of TRIFED supported by Ministry of MSME, aims at capacity building and imparting entrepreneurship skills totribal forest produce gatherers enrolled under the Pradhan Mantri VanDhan Yojana(PMVDY).
- The trainees will undergo a 30 days program over six weeks comprising 120 sessions.

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• The Tech for tribals capacity building program will ensure higher success rate of the Tribal Entrepreneurs by enabling and empowering them to run their business with marketable products with quality certifications.

### 9 HUNTINGTON DISEASE (HD)

- A team of scientists from National Centre for Cell Science (NCCS) in Pune led by Dr. Amitabha Majumdar have been working to gain insights into this by studying the HTT gene in fruit flies.
- They observed that the pathogenic Huntingtin protein causes a decrease in the overall protein production in cells and that the Huntingtin clumps collect together (sequester) molecules of another protein called Orb2, which is involved in the process of protein formation.

### What is Huntington Disease?

- Huntington disease (HD) is a progressive genetic disorder affecting the brain that causes uncontrolled movements, impaired coordination of balance and movement, a decline in cognitive abilities, difficulty in concentrating and memory lapses, mood swings and personality changes.
- It is caused by a mutation in a gene called HTT.
- The HTT genes are involved in the production of a protein called huntingtin. They provide the instruction for making the protein.
- When the genes mutate, they provide faulty instructions leading to production of abnormal huntingtin proteins and these form into clumps.
- The clumps disrupt the normal functioning of the brain cells, which eventually leads to death of neurons in the brain, resulting in Huntington disease.

### About Orb2:

- Huntingtin clumps collect together (sequester) molecules of another protein called Orb2, which is involved in the process of protein formation.
- Orb2 protein is also crucial for maintenance of memory in fruit flies. Therefore, sequestration of Orb2 by Huntingtin clumps may hold relevance to the memory-related issues associated with HD as well.

### **10 HOUSE SPARROW**

- Every year March 20 is observed as World Sparrow Day to raise awareness about the bird.
- House Sparrow, once an integral part of our immediate environment, all but disappeared almost two decades ago.
- The common bird that lived in the cavities of our houses and polished off our leftover food, today sits on the red list of the **endangered species** of **The International Union for Conservation of Nature (IUCN).**
- Scientific studies have established that the house sparrows follow us everywhere and simply cannot live where we don't.
- Fossil evidence from a cave in Bethlehem dating back 4,00,000 years suggests that the house sparrow shared its space with early humans.

- According to a 2018 Royal Society of London report, the bond between humans and sparrows goes back 11,000 years, and the starch-friendly genes of the house sparrow tell us a story linked to our own evolution.
- Agriculture triggered similar adaptation in three very different species dogs, house sparrows and humans.

### 11

### CABINET APPROVES SCHEME FOR PROMOTION OF MANUFACTURING OF ELECTRONIC COMPONENTS AND SEMICONDUCTORS

- The Union Cabinet chaired has approved to offer financial incentive of 25% of capital expenditure for the manufacturing of goods that constitute the supply chain of an electronic product under the Scheme for Promotion of manufacturing of Electronic Components and Semiconductors (SPECS).
- The scheme will help offset the disability for domestic manufacturing of electronic components and semiconductors in order to strengthen the electronic manufacturing ecosystem in the country.
- The proposal when implemented will lead to the development of electronic components manufacturing ecosystem in the country.

### **Background:**

- The vision of National Policy on Electronics 2019 (NPE 2019) is to position India as a global hub for Electronics System Design and Manufacturing (ESDM).
- ► A vibrant electronic components manufacturing ecosystem is vital for the overall long-term and sustainable growth of electronics manufacturing in India and essential to achieve net positive Balance of Payments (BoP).
- ➤ It is, therefore proposed to provide an incentive of 25% on capital expenditure on plant, machinery, equipment, associated utilities and technology, including for Research & Development to the industrial units making investment for manufacturing of electronic components, semiconductors, ATMP, specialized sub-assemblies and capital goods for these items, in the specified categories.
- ► This will cater to all segments of electronics manufacturing such as Mobile Electronics, Consumer Electronics, Industrial Electronics, Automotive Electronics, Medical Electronics, Strategic Electronics, Power Electronics, Telecom Equipment, Computer Hardware etc.

### **12** ELECTRONICS MANUFACTURING CLUSTERS (EMC 2.0) SCHEME

The Union Cabinet has approved financial assistance to the Modified Electronics Manufacturing Clusters (EMC2.0) Scheme for development of world class infrastructure along with common facilities and amenities through Electronics Manufacturing Clusters (EMCs).

### What is EMC2.0 Scheme?

- The Modified Electronics Manufacturing Clusters (EMC 2.0) Scheme would support setting up of both Electronics Manufacturing Clusters (EMCs) and Common Facility Centers (CFCs).
- For the purpose of this Scheme, an Electronics Manufacturing Cluster (EMC) would set up in geographical areas of certain minimum extent, preferably contiguous, where the focus is on development of basic infrastructure, amenities and other common facilities for the ESDM units.

• For Common Facility Centre (CFC), there should be a significant number of existing ESDM units located in the area and the focus is on upgrading common technical infrastructure and providing common facilities for the ESDM units in such EMCs, Industrial Areas/Parks/industrial corridors.

### **13 WORLD TUBERCULOSIS DAY**

- World Tuberculosis Day is being observed on 24th March, 2020 to commemorate the anniversary of Dr. Robert Koch's discovery of the Tuberculosis (TB) bacteria in 1882.
- Government of India has committed to eliminate prevalence of TB by 2025, with commensurate resources to rapidly reduce TB incidence prevalence and mortality in India.

### **Tuberculosis (TB):**

- Tuberculosis (TB) is caused by bacteria (Mycobacterium tuberculosis) that most often affect the lungs. Tuberculosis is curable and preventable.
- TB is spread from person to person through the air. When people with lung TB cough, sneeze or spit, they propel the TB germs into the air. A person needs to inhale only a few of these germs to become infected.
- About one-quarter of the world's population has latent TB, which means people have been infected by TB bacteria but are not (yet) ill with the disease and cannot transmit the disease.

### **14** RECAPITALIZATION OF REGIONAL RURAL BANKS (RRBS)

- The Cabinet Committee has given its approval for continuation of the process of recapitalization of Regional Rural Banks (RRBs) by providing minimum regulatory capital to RRBs for another year beyond 2019-20, that is, up to 2020-21 for those RRBs which are unable to maintain minimum Capital to Risk weighted Assets Ratio (CRAR) of 9%, as per the regulatory norms prescribed by the Reserve Bank of India.
- The CCEA also approved utilization of Rs.670 crore as central government share for the scheme of Recapitalization of RRBs (i.e. 50% of the total recapitalization support of Rs.1340 crore).

### **Rural Regional Banks:**

- 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.
- In addition, RRBs also provide lending to micro/small enterprises and small entrepreneurs in rural areas.
- As per RBI guidelines, the RRBs have to provide 75% of their total credit under PSL (Priority Sector Lending).
- 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.

### 15 GLACIERS IN SIKKIM ARE LOSING MASS FASTER THAN OTHER PARTS OF THE HIMALAYA

Scientists from Wadia Institute of Himalayan Geology (WIHG) have found that glaciers in Sikkim are melting at a higher magnitude as compared to other Himalayan regions.

### **Highlights of the findings:**

- The study assessed the response of 23 glaciers of Sikkim to climate change for the period of 1991-2015 and revealed that glaciers in Sikkim have retreated and deglaciated significantly from 1991 to 2015.
- Small-sized glaciers in Sikkim are retreating while larger glaciers are thinning due to climate change.
- Compared to other Himalayan regions, the magnitude of dimensional changes and debris growth are higher in the Sikkim.
- A major shift in glacier behavior has occurred around 2000.
- Contrary to the western and central Himalaya, where glaciers are reported to have slowed down in recent decades, the Sikkim glaciers have shown negligible deceleration after 2000.
- Summer temperature rise has been prime driver of glacier changes.

### SCIENTISTS OF ARI, PUNE DEVELOP BIOFORTIFIED, HIGH PROTEIN WHEAT VARIETY

Scientists from Agharkar Research Institute (ARI), Pune have developed a biofortified durum wheat variety MACS 4028, which shows high protein content.

### About MACS 4028:

- The wheat variety shown high protein content of about 14.7%, better nutritional quality having zinc 40.3 ppm, and iron content of 40.3ppm and 46.1ppm respectively, good milling quality and overall acceptability.
- MACS 4028, the development of which was published in the Indian Journal of Genetics and Plant Breeding, is a semi-dwarf variety, which matures in 102 days and has shown the superior and stable yielding ability of 19.3 quintals per hectare.
- It is resistant to stem rust, leaf rust, foliar aphids, root aphids, and brown wheat mite.

### **17** NATIONAL TELECONSULTATION CENTRE (CONTEC)

The government launched the National Teleconsultation Centre (CoNTeC). The project CoNTeC, an acronym for COVID-19 National Teleconsultation Centre, has been conceptualised by the Ministry of Health & Family Welfare and has been implemented by the All India Institute of Medical Sciences, New Delhi.

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### What is CoNTeC?

- It is a multi-modal telecommunications hub through which 2 way audio-video and text communications can be undertaken from any part of the country as well as the world at large.
- The modes of communication will include simple mobile telephony as well as two way video communications, using WhatsApp, Skype and Google Duo.
- The CoNTeC is also fully integrated with the National Medical College Network (NMCN) to conduct a full fledged Video Conference (VC) between the 50 Medical Colleges connected through the NMCN with its National Resource Centre located at SGPGI, Lucknow.
- CoNTeChas been made operational at AIIMS with a view to connect the Doctors across the country to AIIMS in real time for treatment of the COVID-19 patients.
- The Doctors would be available in the facility 24X7 and to keep it operational 24 hrs.





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