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### **1. Anurag Thakur inaugurates Virtual Drone E-learning platform at Agni College of Technology ( Dec. 6, 2022 )**

Anurag Thakur inaugurates Virtual Drone E-learning platform at Agni College of Technology

Information and Broadcasting minister **Anurag Thakur** on 6 December inaugurated the **Virtual Drone E learning platform** at **Agni College of Technology at Chengalpet near Chennai**.

#### **Important facts**

- He also flagged off the first-of-its-kind **drone yatra**.
- Drone technology is essential for defence, agriculture, horticulture, cinema and could substitute for many areas.
- At least one lakh drone pilots will be made under the make in India scheme in two years time by the Garuda Aerospace Technology in Chengalpet District.
- India is making significant progress in developing cutting edge in **drone technology**.
- Drone technology can be used to stop illegal mining and can create a massive impact on agriculture.

#### **About Drone Yatra**

- **Garuda Aerospace's** drone yatra, '**Operation 777**', inaugurated for agricultural uses is set to cover 777 districts to ease agricultural work across the country.
- The Drone Yatra will help farmers understand more about the technology and give them a better perspective on how to grow crops.
- Drones are truly revolutionary for the agriculture ecosystem and **Garuda Aerospace** is continuously moving forward to help farmers with effective agriculture techniques with the help of drones.
- Garuda Aerospace will be manufacturing more than **1 lakh drones** in the next 2 years.
- **Kisan Drones** currently being developed by Garuda are fitted with sensors, cameras, and sprayers that help in increasing food crop productivity, reduce crop loss, reduce farmer exposure to harmful chemicals.

### **2. Scientists urge Andhra Pradesh govt to protect glacial-period coastal red sand dunes of Vizag ( Dec. 3, 2022 )**

protect glacial-period coastal red sand dunes of Vizag

**Geologists** have said recently that the **coastal red sand dunes of Vizag**, have much significance **geologically, archaeologically, and anthropologically** and it needs to be protected.

### **About Coastal red sand dunes**

- The **Coastal Red Sand Dunes** also known as '**Era Matty Dibbalu**' is one of the many important sites in **Visakhapatnam** which have geological significance.
- The site is situated along the coast and is about 20 km north-east of Visakhapatnam city and about 4 km south-west of **Bheemunipatnam**.
- The site was declared as a **Geo-Heritage Site** by the **Geological Survey of India (GSI) in 2014**.
- The Government of Andhra Pradesh listed it under the category of '**protected sites**' in **2016**.

### **Significance of Coastal red sand dunes**

- Such sand deposits are rare and are found only in three places in tropical areas in South Asia – **Terry Sands in Tamil Nadu, Era Matti Dibbalu in Visakhapatnam and one place in Sri Lanka**.
- Preserving this site is important, as its study can help understand the impact of **climate change**, as **Era Matti Dibbalu** has witnessed glacial and warm climate periods.
- The site is about **18,500 to 20,000 years old** and it can be related to the **last glacial period**.
- They are anthropologically and archaeologically important as they possibly contain **Mesolithic and neolithic cultural materials** as well.

### **3. Scientists revive nearly 48,500-year-old 'Zombie Virus' from bottom of frozen lake in Russia ( Dec. 3, 2022 )**

Scientists revive nearly 48,500-year-old 'Zombie Virus'

**French scientists** have warned of the onset of another outbreak after they **revived a 48,500-year-old zombie virus** buried under a **frozen lake in Russia**.

#### **Important facts**

- It has broken the previous record of a **30,000-year-old virus** discovered by the same team in Siberia in 2013.
- This report is published in the **New York Post**.
- The new research was prepared by **Jean-Marie Alempic**, a microbiologist at the **French National Center for Scientific Research**.

- It has been said in the report that due to the survival of this zombie virus, a more devastating situation can arise in plants, animals and humans.
- Scientists have expressed the possibility of another epidemic like corona due to the survival of this virus.

### **Threat of melting glacier**

- According to the report, due to **global warming**, permanently frozen ice is melting, which covers a quarter of the **northern hemisphere**.
- This has a destabilising effect on organic matter that has been frozen for millions of years, including **deadly microbes**.
- Research has shown that part of this organic matter includes revived cellular microbes (prokaryotes, unicellular eukaryotes) as well as viruses that have been dormant since prehistoric times.

### **What is a Zombie Virus?**

- **Zombie virus** is the term given to a virus that is frozen in ice and therefore dormant.
- Research mentions **13 viruses**, each of which has its own genome.
- It is called **Pandoravirus Yedoma** which is 48,500 years old and has the ability to infect other organisms.
- It was discovered at the bottom of a lake in **Yukechi Alas in Yakutia, Russia**.
- All of the zombie viruses have the potential to be infectious and hence pose a health danger.
- Scientists believe that epidemics like **Covid 19** will become more common in the future.

## **4. Scientists discover new drought-resistant wheat gene ( Dec. 1, 2022 )**

Scientists discover new drought-resistant wheat gene

Scientists at the **John Innes Centre, Norwich, England** in collaboration with an international team of researchers, discovered the new '**reduced height' or semi-dwarf gene called Rht13 of wheat**.

### **Important facts**

- **Rht13** is a new drought-resistant semi-dwarf wheat gene that can be grown in dry soils.
- This has raised a new hope for sowing wheat crops in water **limited or drought prone environments**.
- These genes allow seeds to be planted deeper into the soil, providing access to moisture, without adverse effects on germination of wheat varieties.

- Wheat varieties containing the Rht13 gene can rapidly increase yields and enable farmers to grow reduced height wheat under dry soil conditions.
- Since the 1960s and the Green Revolution, **short height genes have increased global wheat yields** and improved their sustainable potential.

## **5. Agnikul inaugurates India's first private space vehicle launchpad in Sriharikota ( Nov. 30, 2022 )**

India's first private space vehicle launchpad

**Chennai-based** space tech startup **Agnikul Cosmos** launched **India's first private launchpad and mission control centre** at the **Satish Dhawan Space Centre (SDSC) in Sriharikota** on 28 November.

### **Important facts**

- The facility was inaugurated by ISRO chairman **S Somanath**.
- Indian Space Research Organisation (ISRO) has supported the private Company **AgniKul Cosmos** for setting up the launchpad.
- The Company has planned a tech demonstration mission.
- This facility has two parts—the **Agnikul launchpad** and the **Agnikul mission control centre**—which are four kilometres apart.
- The launchpad is designed to accommodate and support liquid stage-controlled launches.
- The Chennai-based startup Agnikul Cosmos plans to launch its **Agnibaan rocket** from this launchpad.

### **About Agnibaan Rocket**

- Agnibaan is a highly customizable two-stage rocket from **Agnikul**, capable of carrying a payload of up to **100 kg in orbit (low-Earth orbit)** at an altitude of about **700 km with a plug-and-play configuration**.
- The Agnibaan rocket will be powered by the company's **3D-printed Agnilet engines**.
- The Agnibaan rocket is a "**semi-cryogenic**" engine that uses a mixture of liquid kerosene and supercold liquid oxygen to propel itself.

## **6. WHO has changed the name of Monkeypox disease to mpox ( Nov. 29, 2022 )**

WHO has changed the name of Monkeypox disease to mpox

The World Health Organisation (WHO) on 28 November 2022 has announced that it will term “**mpox**” as a synonym for [monkeypox](#). Both names will be used simultaneously for one year while “monkeypox” is phased out.

WHO said that the disease's original name was considered “racist and stigmatizing” in certain countries of the world. After complaints from some member countries WHO decided to rename the disease.

Assigning names to new and, very exceptionally, to existing diseases is the responsibility of WHO under the International Classification of Diseases (ICD).

The World Health Organisation (WHO) declared monkeypox disease as a "public health emergency of international concern (PHEIC)", on 23 July 2022. It is the highest level of health alert which is issued by WHO.

### **Monkeypox disease**

- Monkeypox is a viral zoonotic disease that occurs primarily in tropical rainforest areas of **Central** and **West Africa**.
- It was first identified in monkeys in 1958 hence it is called Monkeypox. It was first identified in humans in 1970.
- Because it was transmitted from animal to human it is called zoonotic disease.
- The first case of Monkeypox in the country was also reported from Kollam district of Kerala on July 14.

### **World Health Organisation (WHO)**

- The World Health Organisation is a specialised agency of the United Nations which was founded on 7 April, 1948.
- Headquarters of WHO : Geneva, Switzerland
- Director General of WHO: Tedros Adhanom Ghebreyesus of Ethiopia.
- Member Countries : **194**

## **7. World's first Intranasal vaccine iNOVACC gets DCGI approval for Covid booster doses ( Nov. 29, 2022 )**

World's first Intranasal vaccine iNOVACC gets DCGI approval

**Bharat Biotech International Limited (BBIL)** has announced on 29 November that the **iNOVACC vaccine** has become the **world's first intra-nasal vaccine** to receive primary series and heterologous booster approval.

### **Important facts**

- Bharat Biotech International Limited (BBIL) is a global leader in **vaccine innovation and developer** of vaccines for infectious diseases.
- Now **iNOVACC (BBV154)** can be used in India under restricted use in emergency from the **Central Drugs Standard Control Organization (CDSCO)** for heterologous booster dose for age above 18 years.

- This nasal vaccine is the second approved COVID-19 vaccine in India after **Biological E's Corbevax**, which can be used as a mix-and-match booster shot.
- iNCOVACC is a recombinant replication deficient adenovirus vectored vaccine with a pre-fusion stabilized **SARS-CoV-2 spike protein**.
- iNCOVACC has been specially formulated to allow intranasal delivery via nasal drops.

## **8. ISRO launches PSLV-C54 rocket carrying earth observation satellite Oceansat & 8 nanosatellites ( Nov. 26, 2022 )**

ISRO launches PSLV-C54 rocket

The **Polar Satellite Launch Vehicle (PSLV)** of the Indian [Space Research Organization \(ISRO\)](#) successfully launched **PSLV C 54** and **eight nanosatellites**, into space from the first launch pad at the **Satish Dhawan Space Centre** in **Andhra Pradesh's Sriharikota** on 26 November.

### **Important facts**

- This is the 56th flight of the Polar Satellite Launch Vehicle of ISRO and **24th flight** of the extended **PSLV-XL version**.
- The mission payloads including **Oceansat (PSLV C 54)** and eight other nanosatellites have separated in the specified two hours in two different sun-synchronous orbits.
- Specific data from the satellite will be used by the Government departments.
- Mission Director S.R.Biju said PSLV rockets are the workhorses of ISRO.
- the payloads are indigenous and will provide crucial Data including maritime security and detection of cyclones in potential zones.
- The customer payloads are ISRO Nano Satellite-2 for Bhutan (INS-2B), Anand, four satellites of Astrocast, and two satellites of Thybolt.
- The mission objective is to ensure data continuity of ocean color and wind vector data to sustain the operational applications.

## **9. Union Minister Rajeev Chandrasekhar Inaugurates 63rd STPI at Davanagere, Karnataka ( Nov. 25, 2022 )**

Union Minister Rajeev Chandrasekhar Inaugurates

The Minister of State for Electronics & Information Technology and Skill Development & Entrepreneurship, **Rajeev Chandrasekhar** inaugurated a Digital India Startup hub at the Software Technology Parks of India (STPI) centre at **Davanagere, Karnataka** on 25 November 2022.

This is the **63rd STPI** centre in the country and the fifth in Karnataka.

The minister said that India has the fastest growing innovation system with more than 80,000 Startups and over 107 Unicorns, the Minister said the world today looks at India with awe and respect.

### **Software Technology Park of India (STPI)**

It was set up in 1991 by the under Ministry of Electronics and Information Technology (MeitY).

It was set up to promote Software to promote the development and export of software and software services including Information Technology (I.T.) Enabled Services / Bio-IT.

It aims to be the largest technology Startup ecosystem in the country and to transform the country into a software product nation.

The total export from STPI in 2020-21 was Rs. 4, 96,313 crores, which is around 50% of the national software exports and 2.3% of India's GDP in 2020-21.

Director General of STPI : **Arvind Kumar**

## **10. Europe announces name of world's first disabled astronauts ( Nov. 24, 2022 )**

Europe announces name of world's

The European Space Agency announced the name of the **first "parastronaut"** on 23 November in a major step towards allowing people with **physical disabilities to work and live in space.**

### **Important facts**

- The 22-nation European Space Agency said it selected former British Paralympic runner **John McFall** as part of a new generation of 17 recruits selected for astronaut training.
- He will participate in a feasibility study designed to allow ESA to assess the conditions needed for people with disabilities to participate in future missions.
- Five new astronauts have been roped in to take part in the training after ESA replenished its astronaut ranks for the first time since 2009.
- The EAS received 257 applications for the role of an astronaut with a disability, designated a "parastronaut".
- McFall, who lost his right leg due to a motorcycle accident at the age of 19, won a **bronze medal** in the 100 metres at the 2008 **Beijing Paralympic Games.**