

TARGET4IAS: TOGETHER WE CAN



**Target4IAS**  
Together We Can

**Weekly Current Affairs**

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## 2-DEOXY-D-GLUCOSE (2-DG)

### In news


Drugs Controller General of India (DCGI) approved anti-COVID drug developed by DRDO for emergency use.


### Key takeaways:


- Developed by **Institute of Nuclear Medicine and Allied Sciences (INMAS)**, a lab of DRDO in collaboration with **Dr Reddy's Laboratories (DRL), Hyderabad**.
- It comes in powder form in sachet->**taken orally by dissolving it in water**.
- It **accumulates in the virus infected cells and prevents virus growth** by stopping viral synthesis and energy production.

**A ray of hope** | The use of 2-deoxy-D-glucose (2-DG) in COVID-19 patients showed a higher proportion of them recording faster RT-PCR negative conversion.

**HOW IT WORKS:**

 The drug comes in powder form in sachets, which is taken orally by dissolving it in water

 It accumulates in the virus infected cells and prevents their growth by stopping viral synthesis and energy production. Its selective accumulation in virally infected cells makes this drug unique

 Clinical trials have shown that this molecule helps in faster recovery of hospitalised patients and reduces their dependence on oxygen

## Maharana Pratap

### In news

Prime Minister Narendra Modi paid tributes to Maharana Pratap on his birth anniversary.

### About Maharana Pratap

- He was a king of **Mewar**->the eldest son of Udai Singh II (founder of city of Udaipur).
- Chetak is the name given in traditional literature to the horse ridden by Maharana Pratap at the Battle of Haldighati.
- **Battle of Haldighati** - It was fought on 18 June 1576 between the forces Maharana Pratap; and the Mughal emperor Akbar's forces, led by Man Singh I of Amber. The Mughals were the victors but failed to capture Pratap, who escaped.

## National Technology Day

- India recently observed the **23rd National Technology Day on 11th May, 2021**.
- It was **first observed on 11 May, 1999**.
- The day was **named by the former Prime Minister Atal Bihari Vajpayee**.
- Theme is **"Science and Technology for a Sustainable Future"**.
- Every year, the **Technology Development Board of India** (a statutory body of the Department of S&T) celebrates the day by awarding individuals with National Award for their contribution to science and technology in India.

## Mucormycosis

- It is a very rare infection, known as **black fungus**.
- **Caused by**->exposure to **mucor mould** which is commonly found in **soil, plants, manure, and decaying fruits and vegetables**.
- It affects the **sinuses, the brain and the lungs** and can be **life-threatening in diabetic or severely immunocompromised individuals**.
- Black Fungus generally affects COVID-19 recovered patients who have **other comorbidities like diabetes, kidney or heart failure, cancer** as well as patients who are on steroids or have had a transplant.
- **Amphotericin-B**->anti-fungal drug that is used in the treatment of a severe fungal infections such as mucormycosis and kala-azar.

# What is mucormycosis?

Mucormycosis, commonly called **black fungus**, is a rare but serious fungal infection caused by a kind of fungus called mucormycete, which is abundant in the environment. It mainly affects people who have health problems or take medicines that lower the body's ability to fight germs and sickness.

### SYMPTOMS



These include pain and redness around eyes and/or nose, fever, headache, coughing, shortness of breath, bloody

vomits, and altered mental status. Warning signs can include toothache, loosening of teeth, blurred or double vision with pain.

### WHO IS VULNERABLE



Vulnerable groups include people who have health problems or take medicines that lower the body's ability to fight germs

and sickness. These include those with diabetes, cancer, or those who have had an organ transplant.

### PREVENTION



Use masks if you are visiting dusty construction sites. Wear shoes, long trousers, long-sleeved shirts and

gloves while gardening. Maintain personal hygiene including a thorough scrub bath.

### DIAGNOSIS



It depends on the location of the suspected infection. A sample of fluid from your respiratory system may be

collected for testing in the lab; otherwise a tissue biopsy or a CT scan of your lungs, sinuses etc may be conducted.



### TREATMENT

Mucormycosis needs to be treated with prescription antifungal medicine. In some cases, it can require surgery; it can lead to eventual loss of the upper jaw and sometimes even an eye.

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## Gopal Krishna Gokhale

### In news

Prime Minister Narendra Modi paid tributes to Freedom Fighter and social reformer Gopal Krishna Gokhale on his birth anniversary.

### About Gopal Krishna Gokhale

- He became a member of the Indian National Congress in 1889.
- He was the leader of the moderate faction of the Congress party. In 1905, he was elected president of the Indian National Congress (Benaras Session).
- The **Servants of India Society** was formed by him in Pune (Maharashtra) in 1905 to further the expansion of education in India
- In 1908, he founded the '**Ranade Institute of Economics**'.
- He launched the English weekly newspaper named **The Hitavad** in 1911.
- Gokhale visited South Africa at Gandhi's invitation. He received personal guidance from Gokhale, including a knowledge and understanding of India and the issues confronting common Indians.

## Rabindranath Tagore

### In news

Prime Minister Narendra Modi has paid tribute to Gurudev Rabindranath Tagore on Tagore Jayanti.

### About Rabindranath Tagore

- Popularly known as **Gurudev**.
- In 1913, he became the first Indian to receive a **Nobel Prize in Literature** for his novel '**Geetanjali**'.
- He also wrote the National Anthems of **India and Bangladesh**.
- Tagore had composed **Amar Shonar Bangla in 1905** in the wake of the Bengal partition to foster a spirit of unity and patriotism among Bengalis.
- He was knighted by the British government in 1915. But he later renounced it protesting against the Jallianwala Bagh Massacre
- His notable works include **Gitanjali, Ghare-Baire, Gora, Manasi, Balaka, Sonar Tori**. He is also remembered for his song "**Ekla Chalo Re**".
- He was also called the "**Bard of Bengal**".
- In 1918, he founded the **Vishwabharati University at Santiniketan**. He was staunchly against the classroom kind of education. He believed it stifled creativity. He conceived of an educational system where the students' curiosity was kindled and learning became more natural.

## **Rupsi Airport**

### **In news**

The World War II Rupsi airport in Assam, which lay defunct since 1984, became operational.

### **About Rupsi airport**

- The airport was constructed by the **British during World War II** to supply arms, manpower and ammunition to the Allied forces. The US Air Force had used it in the China-Burma-India theater.
- Regional airline Vayudoot operated in the 1980s but withdrew the services in 1984.
- The airport has been developed under the Regional Connectivity Scheme-UDAN and flight operations by Flybig Airlines.
- Rupsi is Assam's 7th airport and 15th in the northeast including Pakyong in Sikkim.

## **GOA MARITIME SYMPOSIUM (GMS) – 2021**

- Indian Navy hosted 'GMS-21' under the aegis of Naval War College, Goa.
- **Aim:** fostering friendly relations with its maritime neighbours.
- Participation of Naval representatives from 13 Indian Ocean Littoral countries, which included India, Bangladesh, Comoros, Indonesia, Madagascar, Malaysia, Maldives, Mauritius, Myanmar, Seychelles, Singapore, Sri Lanka and Thailand.
- The **theme for GMS-21** was focused on "Maritime Security and Emerging Non-Traditional Threats: A Case for Proactive Role for IOR Navies," with emphasis on capacity building amongst the IOR Navies to tackle emerging common maritime threats.

## **e-Sanjeevani OPD**

### **In news**

In order to mitigate the criticality of inadequate availability of specialised medical manpower, veteran defence doctors have come forward to provide free online consultation services on the e-Sanjeevani platform.

### **About e-Sanjeevani OPD**

- It is a Govt of India flagship **telemedicine platform**,
- Developed by the C-DAC, Mohali under the aegis of MoHFW, Govt of India.
- It facilitates free online medical consultation to all citizens of India, as well as provides for online prescription of medicines.

## SAMUDRA SETU II

- **Launched by Indian Navy to meet the country's oxygen requirement** amid the surge in Covid-19 cases in the second wave and the acute shortage of liquid medical oxygen (LMO).
- **Last year**, the Navy had launched **Operation Samudra Setu** as part of the Vande Bharat evacuation mission under which it brought back to India around 4,000 stranded Indians from Maldives, Sri Lanka and Iran.

## Leatherback Turtle:

- Leatherback turtles are often known as gelatinivores, meaning they only eat invertebrates such as jellyfish and sea squirts.
- Found in all oceans except the Arctic and the Antarctic.
- Within the Indian Ocean, they nest only in Indonesia, Sri Lanka and the Andaman and Nicobar Islands.

## Ivermectin

### In news

Ivermectin, still listed in India as a possible treatment option for mild COVID19 patients under home isolation, is not recommended for general use, according to a recent direction of the World Health Organization (WHO).

### About Ivermectin

- It is used for the **treatment of two illnesses** —
  1. **onchocerciasis**, responsible for blindness
  2. **filariasis**, which is debilitating.
- Ivermectin was also found to be effective in reducing the multiplication of certain RNA viruses such as SARS and COVID RNA.
- It has shown efficacy to bind to the spike protein site of the RNA virus, thereby reducing the multiplication and attachment of the virus to the ACE receptor in the nasal epithelium.

## Israel Iron Dome

- It is a **short-range, ground-to-air, air defence system**.
- Developed by Israeli manufacturer Rafael Advanced Defense Systems with support from the United States.

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- It is used for countering rockets, artillery & mortars (C-RAM). It will also counter aircraft, helicopters and unmanned aerial vehicles fired from distances of up to 70 km.
- It has three main systems.
  - Firstly, it has detection and tracking radar.
  - Secondly, it has a battle management and weapon control system (BMC). It predicts the incoming rocket's trajectory.
  - Lastly, the information picked by the system is then used to guide Tamir interceptor missiles. This will detonate the incoming rocket in the air by producing explosions in the sky.
- The missile is capable of being used in all weather conditions

### Compulsory Licensing

- It is a process that allows Producers to manufacture patented drugs without the requirement of consent of patent owners.
- In India, Compulsory Licensing is allowed and regulated under the **Indian Patent Act, 1970**.
- Section 92 of the (Indian) Patent Act, 1970: authorizes the central government to issue a CL at any time after the grant of the patent, in the case of:
  - National emergency; or
  - Extreme urgency; or
  - Case of public non-commercial use.

### About Patent

- It is an exclusive right granted for an invention.
- Patents are **territorial rights**. In general, the exclusive rights are only applicable in the country or region in which a patent has been filed and granted in accordance with the law of that country or region.

**Compulsory licensing** | The Supreme Court outlined the following legal framework within which the Centre can consider compulsory licensing and acquisition of patents for vaccines against COVID-19:

**TRIPS Agreement:** Articles 30 and 31 deal with exceptions to the rights of patent owners by allowing grant of compulsory licences, "It leaves countries with significant breathing space to determine how the compulsory licensing or government-use levers can be triggered," the top court says

**2001 Doha Declaration:** The Declaration says TRIPS should be interpreted in a manner supportive of the right of members to protect public health and to promote access to medicines

**Para 5(b):** It provides the freedom to each member to grant compulsory licences and determine the grounds on which the licences are granted

**Para 5(c):** Each nation can determine what constitutes a national emergency or extreme urgency



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- The protection is granted for a limited period, generally 20 years from the filing date of the application.

### World Food Prize 2021

#### In news

**Dr Shakuntala Haraksingh**, a global nutrition expert of Indian descent has won the prestigious prize. She was awarded for her research in developing holistic, **nutrition-sensitive approaches to aquaculture and food systems**.

#### About World Food Prize

- It recognizes the achievements of individuals-> who have achieved human development by improving the quality, quantity or availability of food in the world.
- **Presented by** the World Food Prize Foundation.
- The award was conceived in 1987 by Dr Norman E. Borlaug-> winner of the Nobel Peace Prize in 1970 for his work in global agriculture. He is also known as the **Father of the Green Revolution**.
- **M.S. Swaminathan**, the **father of India's green revolution** was the first recipient of this award in 1987.

### Advanced Chemistry Cell (ACC) Battery Storage

#### In news

Cabinet approves the Production Linked Incentive (PLI) Scheme for 'National Programme on Advanced Chemistry Cell (ACC) Battery Storage'.

#### Key takeaways

- The programme aims to set up facilities capable of manufacturing a cumulative 50GWh of Advanced Chemistry Cell (ACC) batteries.
- **Nodal Ministry:** Ministry of Heavy Industries & Public Enterprises
- Currently, all the demand for the ACCs is satisfied through imports in India-> Programme will decrease import dependence.
- It will also increase the demand for Electric Vehicles (EV).
- Promote newer and niche cell technologies and the impetus in R&D can achieve higher specific energy density

#### About ACC batteries

- These are the new generation of advanced storage technologies->store electric energy either as electrochemical or as chemical energy.



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- The cells then can convert it back to electric energy as and when required.

### Mission for Integrated Development of Horticulture (MIDH)

#### In news

The Ministry of Agriculture and Farmers Welfare has provided an enhanced allocation of MIDH.

#### About MIDH

- It is a **Centrally Sponsored Scheme** for the holistic growth of the horticulture sector.
- **Implemented** by:-Ministry of Agriculture & Farmers Welfare since 2014-15.
- It is being implemented as a part of the Green Revolution – Krishonnati Yojana.
- **Sub Schemes under MIDH:**
  1. National Horticulture Mission (NHM)
  2. Horticulture Mission for North East & Himalayan States (HMNEH)
  3. National Horticulture Board (NHB)
  4. Coconut Development Board (CDB)
  5. Central Institute for Horticulture (CIH), Nagaland.
- **Funding**->60:40 in all the states and 90:10 in the N-E and the Himalayas states. Government contributes 100% in CDB, NHB, CIH.

#### Challenges faced by this sector:

- High post-harvest loss
- Gaps in post-harvest management
- Supply chain infrastructure.

#### Categorisation of diseases:

- WHO uses the following categories to describe transmission patterns:
  - Sporadic cases: small number of cases (one or more) either imported/detected locally
  - Clusters of cases: infections that are largely concentrated in a limited locality.
  - Community transmission: epidemic has become widespread in a community.
- **Clusters cases**: cases detected in the past 14 days are predominantly limited to well-defined clusters. Further, the disease detected will not directly be linked to imported cases.
- **Community transmission (CT)**->when the source of the infection is not known.it will happen when new cases in the last 14 days cannot be traced to those who have an international travel history or to any specific cluster.
- **WHO guidelines further suggest four subcategories within the broader definition of CT**
  - CT1: Low incidence of locally acquired cases detected in the past 14 days
  - CT2: Moderate incidence of locally acquired cases detected in the past 14 days
  - CT3: High incidence of locally acquired cases in the past 14 days
  - CT4: Very high incidence of locally acquired cases in the past 14 days.

## Red-eared slider

### In news

Herpetologists have warned that the invasive red-eared slider, popular as pet could turn nasty for 29 native species of turtles and tortoises.



**Growing concerns:** The red-eared sliders grow fast and leave nothing for the native species to eat. ■ SPECIAL ARRANGEMENT

### Key takeaways:

- The red-eared slider (**Trachemys scripta elegans**) derives its name from red stripes around the part where its ears would be and from its ability to slide quickly off any surface into the water.
- **Native to the U.S. and northern Mexico**, this turtle is an extremely popular pet due to its small size, easy maintenance, and relatively low cost.

## Indicative Notes

- New feature in the Supreme Court's official website launched by the CJI.
- Aimed at providing concise summaries of landmark judgments in an easy to understand format.
- This will serve as a useful resource for media persons and the general public who wish to be better informed about the rulings of the court.

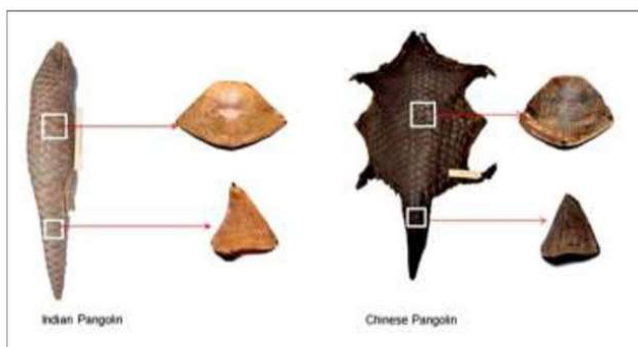
## Pangolin

### In news

Indian Researchers have sequenced 624 pangolin scales, thereby categorising the Indian and Chinese pangolins.

### Key takeaways:

- Researchers of ZSI, Kolkata, have now developed tools to tell apart the scales of Indian pangolin (*Manis crassicaudata*) and Chinese pangolin (*Manis pentadactyla*).
- They characterised the morphological features and investigated genetic variations between the two species by sequencing 624 scales of pangolins
- Based on the size, shape, weight and ridge counts on the scales, the team was able to categorise the two species of Indian and Chinese pangolins.
- Though the Chinese pangolin is distributed mostly in Vietnam, Thailand, Cambodia, the north-eastern part of India is also its home.



**Developing protocols:** Indian and Chinese pangolins are both endangered, therefore, it is important to identify species and the number poached. ■ FORENSIC SCIENCE INTERNATIONAL

### About Pangolin

- Pangolins are **mammals**. They are the **only mammals wholly-covered in scales** and they use those scales to protect themselves from predators in the wild.
- **Food:** eat ants, termites and larvae and are often known as "**the scaly anteater**." Because they have no teeth, pangolins pick up food with their sticky tongues
- Listed in Schedule I of Wildlife (Protection) Act, 1972.
- **IUCN status: Indian Pangolin->Endangered** and **Chinese pangolin->Critically endangered**
- The **population is already limited** as it has a limited geographical range, low fecundity with just one offspring a year. It is also facing pressure due to habitat degradation and is prone to local extinction.

### Particularly Vulnerable Tribal Groups (PVTGs)

#### In news

Growing covid cases in Odisha posing threat to the safety of the Particularly Vulnerable Tribal Groups(PVTGs).

#### About PVTG

- PVTGs are more vulnerable among the tribal groups.
- In **1973, the Dhebar Commission** created Primitive Tribal Groups (PTGs) as a separate category, who are less developed among the tribal groups.
- In 1975, the Government of India initiated to identify the most vulnerable tribal groups as a separate category called PVTGs.
- In 2006, the Government of India renamed the PTGs as PVTGs.
- Total 75 listed PVTG's and the highest number are found in Odisha (13), followed by Andhra Pradesh (12).
- **They have been identified on the basis of**
  - Stagnant or diminishing populations.
  - Subsistence level of economy associated with pre-agricultural stages of hunting, food gathering and shifting cultivation.
  - Extremely low literacy.
  - Relative physical isolation.

#### Facts

- According to the 2011 Census, Odisha's share of the country's total tribal population was 9%. Tribals constitute 22.85% of State's population.
- **The Bonda tribe**, known for its secluded lifestyle. Bonda people live in highlands, 3,500 feet above sea level, in Malkangiri, the southernmost district of Odisha.
- **Tribes in Odisha:** Bonda, Birhor, Chuktia Bhunjia, Didayi, Dongaria Kandha, Hill Kharia, Juang, Kutia, Kondh, Lanjia Saora, Lodha, Mankirdia, Paudi Bhuyan and Saora.