



October - 11

TNPSC BITS

- ❖ Tamil Nadu Chief Minister has inaugurated the Kalaingar Centenary Park on Cathedral Road in Chennai.
- ❖ With the Union government's finance of 65% of the estimated cost of the project of ₹63,246 crore, Chennai Metro Rail's Phase-2 becoming a 'Central sector' project.
- ❖ The Conference on Maritime Decarbonization in India, co-hosted by the Ministry of Ports, Shipping and Waterways and the Asian Development Bank, held in New Delhi.
- ❖ DRDO has successfully conducted flight-tests of the 4th generation, technically-advanced miniaturised Very Short-Range Air Defence System (VSHORADS) at Pokhran.
- ❖ Mark Zuckerberg surpassed Amazon founder Jeff Bezos become the world's second richest person, after Elon Musk according to the Bloomberg Billionaire Index.
- ❖ Taiwan has received its first shipment of 100 land-based Harpoon anti-ship missile systems from the United States.

NATIONAL

National Agriculture Code



Sanjay Pant, Deputy Director General (Standardization), BIS said that, **NAC holds immense potential** to transform **India's agricultural sector** by creating a more conducive environment for farmers to thrive

- ❖ The Bureau of Indian Standards (BIS) has begun the process of formulating a National Agriculture Code (NAC).
- ❖ This is same as the existing National Building Code and National Electrical Code.
- ❖ In agriculture, it has already set standards for machinery (tractors, harvesters, etc.) and various inputs (fertilisers, pesticides, etc.)



- ❖ But there is no standard for agriculture practices like preparation of fields, micro irrigation and water use.
- ❖ The new NAC will cover all agriculture processes and post-harvest operations, such as crop selection, land preparation, sowing/transplanting, irrigation /drainage, soil health management, plant health management, harvesting / threshing, primary processing, post-harvest, sustainability, and record the maintenance.
- ❖ It will also include the standards for input management, like use of chemical fertilisers, pesticides, and weedicides, as well as standards for crop storage and traceability.

Antimicrobial Resistance and India

- ❖ The Indian Council of Medical Research’s (ICMR) Antimicrobial Resistance Research and Surveillance Network has published its annual report for 2023.
- ❖ 55% of the antibiotics were prescribed not for the treatment of an infection, but to prevent one.
- ❖ It is estimated that bacterial AMR was directly responsible for 1.27 million global deaths in 2019 and contributed to 4.95 million deaths.
- ❖ The Lancet warns that AMR pathogens could kill over 39 million people by 2050.

MOST COMMON PATHOGENS FOUND IN INDIA			
Type of facility	Most commonly isolated pathogen	What the pathogen does	Resistance
ICU	<i>Acinobacter baumannii</i>	It can cause pneumonia, infections of the blood, urinary tract, and on wounds. It is becoming an important hospital-derived infection.	Continues to have 88% resistance to third-line, strong antibiotics like carbapenem
Wards & OPD	<i>E. coli</i>	May cause diarrhoea, UTI, pneumonia, and sepsis	Continues to show increased resistance to most classes of antibiotics, including carbapenem for which it went up from 18.6% in 2017 to 37.3% in 2023

INTERNATIONAL

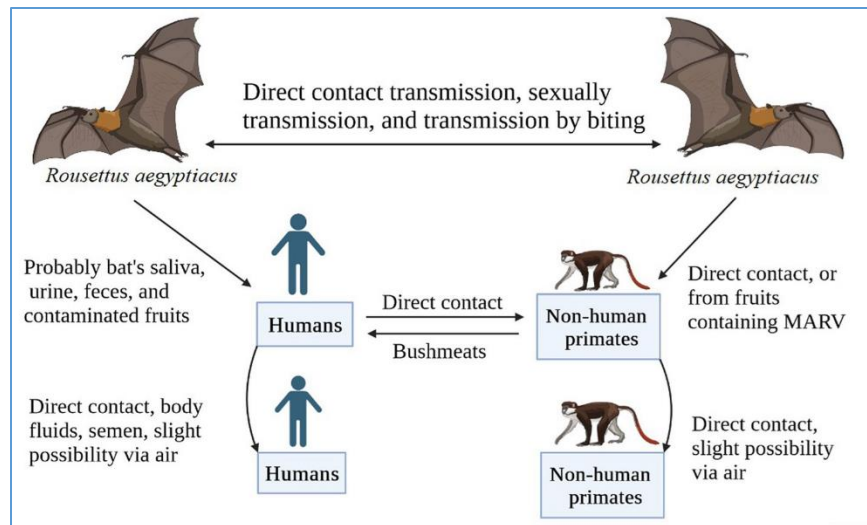
First Mpox diagnostic test

- ❖ WHO has listed the first Mpox in vitro diagnostic under its Emergency Use Listing procedure.

- ❖ The Alinity m MPXV assay is a real-time PCR test that enables detection of monkeypox virus (clade I/II) DNA from human skin lesion swabs.
- ❖ Currently, 35 laboratories across India are equipped to test suspected cases of Mpox.
- ❖ In 2024, over 30,000 suspected cases were reported across the African region.



Marburg Virus - Rwanda

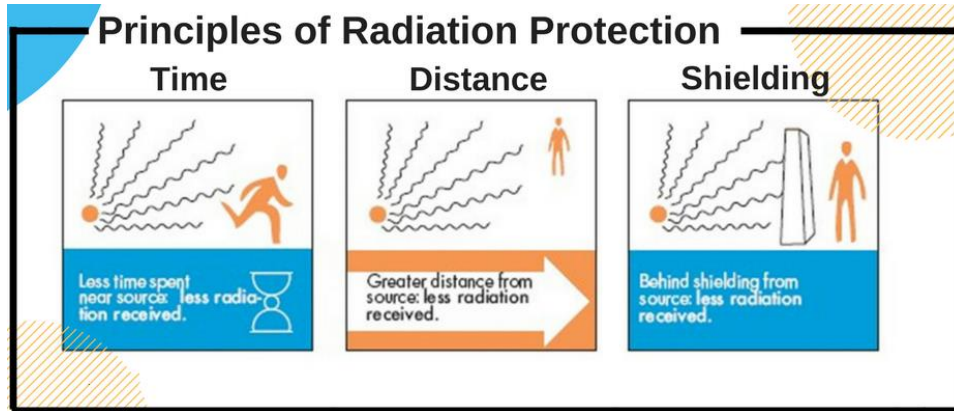


- ❖ Rwanda peaked a new case of sickness caused by Marburg virus – one of the deadliest pathogens known.
- ❖ The Marburg virus disease (MRV) name derives from the disease was first reported in western countries.
- ❖ It was tracing back to lab outbreaks in Germany and the former Yugoslavia in 1967.
- ❖ Marburg virus can spread very quickly in the body, infecting and destroying cells in the blood, liver and skin.

- ❖ Current statistics indicate an 88% mortality rate among those infected with MRV.
- ❖ Marburg virus is ‘zoonotic’, which means it is able to jump from an animal host reservoir to humans through prolonged exposure.

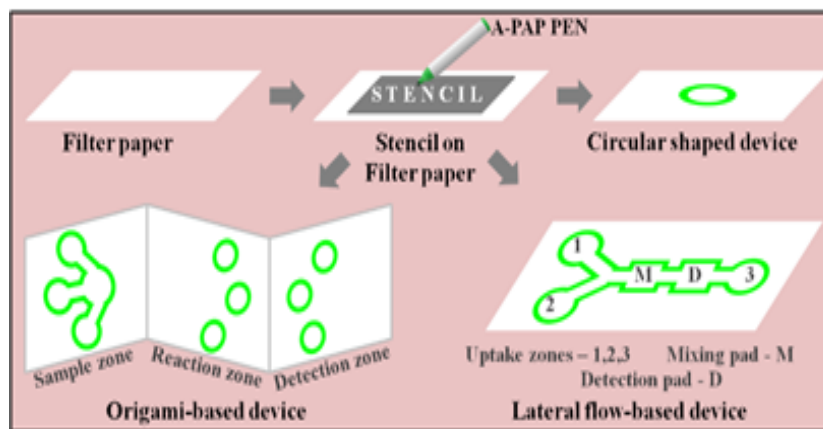
SCIENCE AND TECHNOLOGY

Portable X-Ray Protection Barrier



- ❖ Researchers have collaborated to devise a portable X-ray protection barrier and examination box.
- ❖ The prototype of the biomedical device, used for x-ray-based histopathology analysis of tissue samples to diagnose diseases.
- ❖ The shield effectively brought down radiation levels from some millihertz to negligible microhertz during tests.

Advanced PAP pen



- ❖ Scientists have developed a cost-effective technique for fabricating paper-based devices using an Advanced PAP (A-PAP) pen.

- ❖ They have fabricated two-dimensional (2D) paper-based devices for chemical detection of heavy metal and nitrite.
- ❖ The paper-based devices fabricated are distinguished by rapid, simple, and cost-effective fabrication.

ENVIRONMENT

Negro River water Level



- ❖ Negro, One of the Amazon River's main tributaries has dropped to its lowest level ever recorded.
- ❖ The level of the Negro River at the port of Manaus was at 12.66 metres recently.
- ❖ Its normal level is about 21 metres.
- ❖ It is the lowest since measurements started 122 years ago.
- ❖ The Negro River drains about 10 per cent of the Amazon basin and is the world's sixth-largest by water volume.
- ❖ The 2250 Km long river passes through Colombia, Venezuela, and Brazil.

STATES

Pygmy hogs in Manas

- ❖ Nine captive-bred pygmy hogs were released in western Assam's Manas National Park.
- ❖ It was the fifth such exercise by the Pygmy Hog Conservation Programme (PHCP) since 2020.

- ❖ The pygmy hog (*Porcula salvania*) is the world's smallest and rarest wild pig most threatened by extinction.



Gudiya bird of Bihar



- ❖ The Women's Asian Champions Trophy-2024 is jointly being organised by Hockey India.
- ❖ 'Gudiya' was named as the mascot for the 2024 game.
- ❖ The logo, central to the design is the iconic Bodhi Tree, a symbol deeply connected to Bihar's spiritual heritage.

PERSONALITIES, AWARDS, AND EVENTS

Nobel Prize 2024 in Medicine

- ❖ Scientists Victor Ambros and Gary Ruvkun have won the 2024 Nobel Prize in Physiology or Medicine.

- ❖ They discovered microRNA, a new class of tiny RNA molecules that play a crucial role in gene regulation.
- ❖ It revealed a completely new principle of gene regulation that turned out to be essential for multicellular organisms, including humans.
- ❖ It is now known that the human genome codes for over one thousand microRNAs.
- ❖ The 2023 Nobel Prize in Physiology or Medicine was awarded to Katalin Karikó and Drew Weissman.

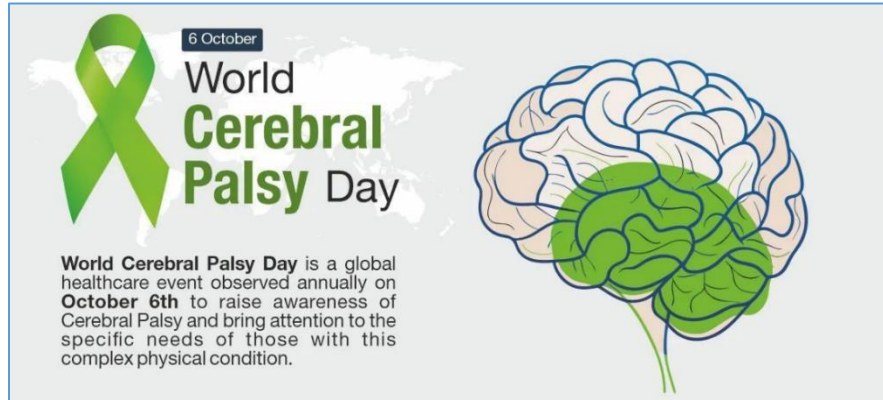


IMPORTANT DAYS

World Cerebral Palsy Day 2024 - October 06

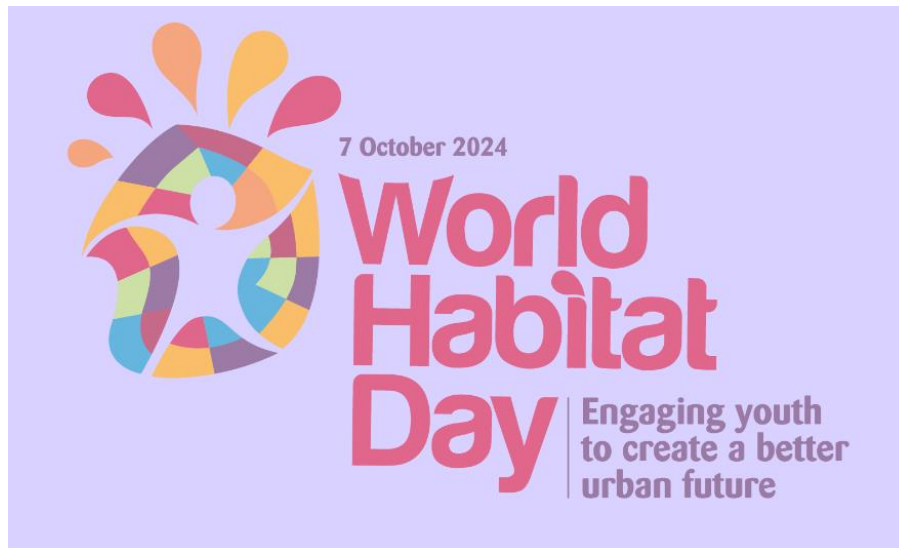
- ❖ It is to raise awareness and advocate for the rights of individuals living with cerebral palsy (CP).
- ❖ This day serves as a reminder of the challenges faced by those affected by CP and underscores the importance of support and inclusion in society.
- ❖ Cerebral palsy is a condition of movement and posture.
- ❖ In cerebral palsy, the brain develops differently in different children.
- ❖ Globally, about 1.7 crores of people have some form of cerebral palsy.

- ❖ This year's theme is "Uniquely CP".



World Habitat Day 2024 - October 06

- ❖ In 1985, the United Nations General Assembly announced the celebration of this day on the first Monday of October.
- ❖ This day serves as a powerful reminder that everyone is entitled to a decent and safe place to live.
- ❖ "Engaging youth to create a better urban future" is the 2024's theme.



Nilgiri Tahr Day 2024 - October 07

- ❖ Tamil Nadu celebrated the first 'Nilgiri Tahr Day' in 2023.
- ❖ October 7 was chosen by the Government as Nilgiri Tahr Day in honour of E.R.C. Davidar.

- ❖ He was a wildlife conservationist who pioneered studies on the sole mountain ungulate of Southern India as early as in 1960s.
- ❖ He took the first census of the Nilgiri tahr in the Nilgiris landscape during 1963 and reported that there were about 400 tahr in the Nilgiris.

