



May - 10

TNPSC BITS

- ❖ India and South Africa proposed for IP waiver at the World Trade Organisation in 2020.
 - Now US President Joe Biden's administration announced its support for a global waiver on patent protections for Covid-19 vaccines and will negotiate the terms at the World Trade Organisation (WTO).
- ❖ Hollywood star Tyler Perry took home the Jean Hersholt Humanitarian Award at the 2021 Oscars ceremony.
 - He has been at the forefront of the entertainment industry's recovery amid the coronavirus pandemic.
- ❖ India's External Affairs Minister S Jaishankar attended the G7 Foreign Ministers Meeting in London virtually.
 - He deliberated on increasing support for the global vaccine distribution scheme COVAX and ensure fair access to vaccine stocks, along with girls' education, arbitrary detention, and media freedom on the agenda.
- ❖ China "indefinitely" suspended all activity under the China-Australia Strategic Economic Dialogue.
 - This recent trade sanctions have affected several key Australian industries including wine, barley and coal.
- ❖ South Carolina lawmakers have passed a bill to allow inmates on death row to be executed by firing squad in the absence of lethal injection drugs.
 - If this becomes a law, it will make South Carolina the fourth state in the country to offer this option as a method of capital punishment.
- ❖ The first-ever India-France-Australia Trilateral Foreign Ministerial Dialogue was held in London, UK, on the side-lines of the G7 Foreign Ministers' Meeting.
 - The meeting was attended by External Affairs Minister, Dr S. Jaishankar from India, France's Minister for Europe and Foreign Affairs, Mr Jean-Yves Le Drian and Australia's Minister for Foreign Affairs, Senator Marise Payne.

TAMIL NADU

Xylophis deepaki

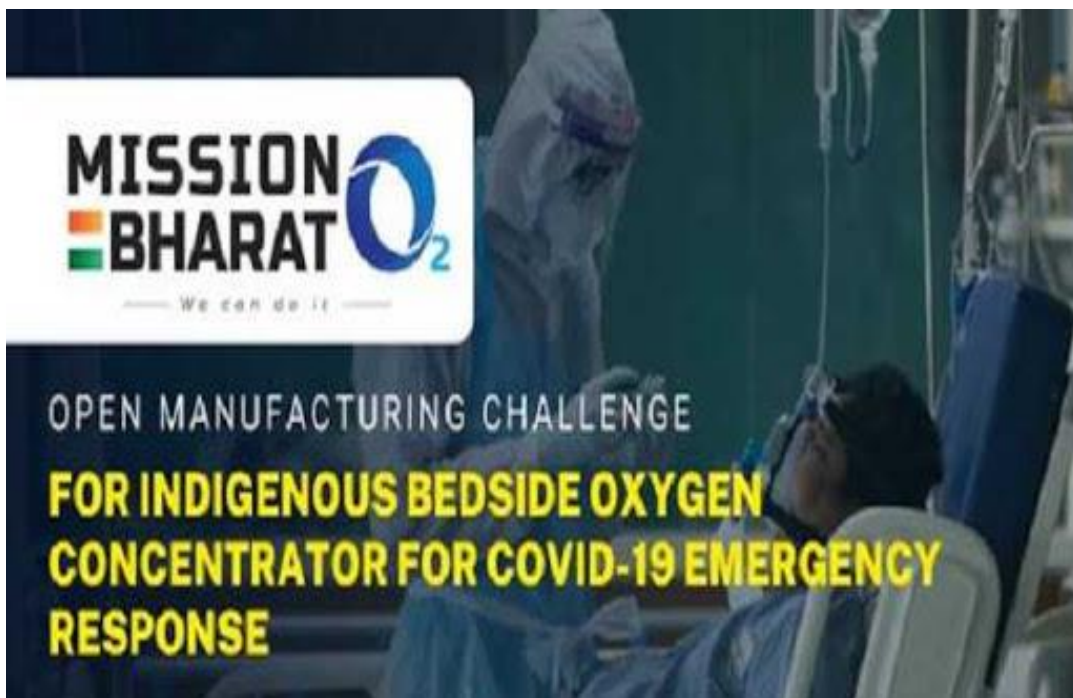
- ❖ A tiny snake "Xylophis deepaki" has been named in honour of Indian herpetologist Deepak Veerappan.

- ❖ This is for his contribution in erecting a new subfamily Xylophiinae to accommodate wood snakes.
- ❖ The common name suggested for the species is 'Deepak's wood snake'.
- ❖ Xylophis deepaki is a tiny snake of just 20 cm length with iridescent scales.
- ❖ It was first found on a coconut plantation in Kanyakumari.
- ❖ It is now reported to be an endemic species of Tamil Nadu and also been sighted in some parts of the southern Western Ghats.
- ❖ It is found in the drier regions and in lower altitudes around Agasthyamalai hills.

NATIONAL

Mission Bharat O₂

- ❖ The Start-up Incubation and Innovation Centre (SIIC) of IIT Kanpur has launched Mission Bharat O₂.
- ❖ It is a 45-day open challenge for manufacturing high-quality indigenous, rapidly scalable oxygen generation units to help combat the emergency.
- ❖ Last year also, SIIC had supported its incubated companies to develop indigenous products like Swasa N-95 mask and Noccarc V310 ventilator.



INTERNATIONAL

Asian Development Outlook 2021

- ❖ The Asian Development Outlook 2021 is a report released by the Asian Development Bank (ADB).
- ❖ The report said the 45 economies that excluded Japan, Australia and New Zealand, were to grow 7.3% this year, supported by a healthy global recovery and early progress on COVID-19 vaccines.
- ❖ The pandemic was the biggest threat to Asia and the Pacific (including India), mainly due to delay in vaccine rollouts or major new outbreaks.
- ❖ Average inflation in the region was forecast to fall to 2.3% in 2021, from 2.8% in 2020.
- ❖ While east and south Asia forecast were to see the strongest growth, the central and Southeast Asia and the Pacific were to see more moderate growth.
- ❖ The report said that the ongoing 'second wave' COVID-19 pandemic could put India's economic recovery at risk.
- ❖ It said that excluding the second wave, India's economy was expected to grow 11% in fiscal year 2021-2022, amid a strong vaccine drive.
- ❖ India's GDP was expected to expand 7% in 2022.





US participation in PESCO

- ❖ The European Union recently approved the requests of Norway, Canada and United States to participate in Permanent Structured Cooperation (PESCO) defence initiative.
- ❖ For the first time, the European bloc has allowed a third state to participate in the PESCO project.
- ❖ The countries will now participate in the Military Mobility Project in Europe.
- ❖ PESCO is a part of the European Union security and defence policy.
- ❖ It was introduced based on the Treaty of European Union introduced by Treaty of Lisbon in 2009.

SCIENCE AND TECHNOLOGY

Starship SN15 - SpaceX

- ❖ SpaceX successfully launched and landed its Starship SN15 without any explosion.
- ❖ The Starship SN15 became SpaceX's first Starship prototype that did not get destroyed during its test flight.
- ❖ All the previous SpaceX's Starship prototypes, SN8, SN9, SN10, and SN11, had exploded during or after landing.

Lightning Cleanser

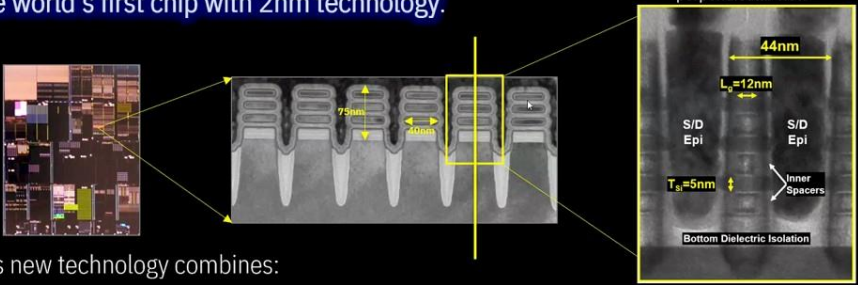
- ❖ A team of researchers found that lightning bolts increase the ability of the atmosphere to cleanse itself or breakdown greenhouse gases (GHGs).
- ❖ The extreme amounts of hydroxyl radical (OH) and hydroperoxyl radical (HO₂) were discharged during lightning events.
- ❖ This OH initiates chemical reactions and breaks down molecules like the GHG methane.

2-nanometer chipmaking technology

- ❖ IBM introduced the world's first 2-nanometer chipmaking technology.
- ❖ The technology could be as much as 45% faster than the mainstream 7-nanometer chips (used in today's laptops and phones).
- ❖ Also, it is up to 75% more power efficient

- ❖ The 2-nanometer chips will be smaller and faster than today's leading edge 5-nanometer chips, which are just now showing up in premium smartphones like iPhone 12 models.

- IBM will announce a *new breakthrough* in semiconductor scaling, the world's first chip with 2nm technology.



The diagram illustrates the cross-section of a 2nm transistor. Key features include:

- Gate Length (L_g):** 12nm
- Gate Thickness (T_g):** 5nm
- Channel Width:** 44nm
- Layers:** S/D (Source/Drain), Epi (Epitaxial), Inner Spacers, and Bottom Dielectric Isolation.

- This new technology combines:
 - An industry-first *Bottom Dielectric Isolation* to enable 12nm gate length
 - A 2nd generation *Inner Spacer dry process* for precise gate control
 - *EUV patterning* to produce variable Nanosheet widths from 15nm to 70nm
 - A novel *Multi-Vt scheme* for both SoC and HPC applications
- Expected to offer 45% performance improvement or 75% power reduction compared to 7nm

This new technology will drive semi. chip performance and efficiency for the next decade.

ENVIRONMENT

Global Assessment on methane emissions

- ❖ A Global Methane Assessment released today by the Climate and Clean Air Coalition (CCAC) and the United Nations Environment Programme (UNEP).
- ❖ This shows that human-caused methane emissions can be reduced by up to 45 per cent this decade.
- ❖ Such reductions would avoid nearly 0.3°C of global warming by 2045.
- ❖ Also, this reduction would be consistent with keeping the Paris Climate Agreement's goal to limit global temperature rise to 1.5 degrees Celsius (1.5°C) within reach.

STATES

Ban on Glyphosate - Telangana

- ❖ The Telangana Government recently imposed a total ban on Glyphosate.
- ❖ The Glyphosate is a controversial herbicide usually use to kill weeds in cotton farms.
- ❖ The usage of Glyphosate is banned because it is carcinogenic.
- ❖ Also, it is being banned to control the illegal cultivation of HTBt cotton.

- ❖ Glyphosate is absorbed through foliage (plant leaves).
- ❖ It is minimally absorbed by roots.
- ❖ In 2015, World Health Organisation classified Glyphosate under Category 2A, that is, a “Probably Carcinogenic in Humans”.

