

### NEWSPAPER HIGHLIGHT

A lizard new to science is wearing the Indian Army's tag. A team of herpetologists have recorded a new species of benttoed gecko from a wooded part of the Umroi Military Station in Meghalaya. Its scientific name is *Cryptodactylus exercitus* and English name is Indian Army's benttoed gecko. *Exercitus* in Latin means army. "The name was given to honour the Army for its services to the country.

Dollar millionaires or those possessing personal wealth of over ₹7 crore rose by 11% to 4.58 lakh households in India at the end of 2021, as per a survey. The survey of 350 such dollar millionaires also indicated that the number of those who classify themselves as happy in personal and professional lives slipped to 66% in 2021, down from 72% in 2020. The Hurun Report findings on dollar millionaires come at a time when there is rising concern about the growing inequality in the country of over 130 crore.

The World Health Organization (WHO) said on Friday that six African countries — Egypt, Kenya, Nigeria, Senegal, South Africa and Tunisia — would be the first on the continent to receive the technology needed to produce mRNA vaccines. The technology transfer project, launched last year, aims to help low and middle income countries manufacture mRNA vaccines at scale and according to international standards.

The Supreme Court ordered the Uttar Pradesh government to refund damages recovered from the persons accused of "destroying public property" during protests against the Citizenship (Amendment) Act (CAA).

India and the United Arab Emirates (UAE) signed a bilateral "comprehensive" trade pact on Friday. Announcing the Comprehensive Economic Partnership Agreement (CEPA), the biggest trade pact of the last seven years, Prime Minister Narendra Modi welcomed investment from the Gulf country into Jammu and Kashmir and said the initiative would open new routes for regional trade and connectivity and advance "collective interests" of India, Israel, the UAE and the U.S.

### TYPE 1 DIABETES

1. According to a new study, Type 1 diabetes in those below 25 years accounted for at least 73.7% of the overall diabetes deaths in this age group in 2019. Inadequate diagnosis and treatment of diabetes is likely to be a major contributor to these early deaths, highlighting the urgent need to provide better access to insulin and basic diabetes education and care.

2. The death rate varied based on the socio-demographic index (SDI) of a country. Between 1990 and 2019, global death rates for all types of diabetes after age-standardisation decreased by 17% and that for Type-1 diabetes by 21%. **Myanmar, Papua New Guinea and Haiti had the highest age-standardised death rates for diabetes.**

3. Cyprus, Slovenia and Switzerland had the lowest death rates. The UN and the World Health Organization in the 2013-2020 global action plan had recognised diabetes as one of the key challenges in the non-communicable diseases group and aimed to confront it.

### NEUTRINO

1. Tamil Nadu has said to the Supreme Court that it does not want the Indian Neutrino Observatory (INO) to be set up in a sensitive ecological zone in the Western Ghats at a great cost to wildlife and biodiversity. Neutrinos are the 2nd most abundant particles, after photons. They come in three 'flavours' or 'types', and each flavour is associated with a light elementary particle.

2. **They are, Electron-neutrino is associated with the electron; Muon-neutrino with the muon and Tau-neutrino with the tau particle.** They are not easy to catch, as they do not carry a charge, as a result of which they do not interact with matter.

3. They also might have unique properties that would help explain why the universe is made of matter instead of antimatter. Subatomic particles that make up antimatter have properties that are opposite to the subatomic particles of normal matter. Protons, neutrons and electrons (subatomic particles of normal matter) are among the 12 quarks and leptons have been discovered so far.

### GREEN AMMONIA

1. The Ministry of Power notifies Green Hydrogen/ Green Ammonia Policy. Hydrogen and Ammonia are envisaged to be the future fuels to replace fossil fuels. Production of these fuels by using power from renewable energy is termed as green hydrogen and green ammonia. Green Ammonia - Ammonia is a pungent gas that is widely used to make agricultural fertilisers. **2. Green ammonia production is where the process of making ammonia is 100% renewable and carbon-free. Production - One way of making green ammonia is by using hydrogen from water electrolysis and nitrogen separated from the air.**

These are then fed into the Haber process or Haber-Bosch process, all powered by sustainable electricity. In the Haber process, hydrogen and nitrogen are reacted together at high temperatures and pressures to produce ammonia (NH<sub>3</sub>).

3. But, the process of making ammonia is currently not a green process. It is most commonly made from methane, water and air, using steam methane reforming (SMR) (to produce the hydrogen) and the Haber process (to produce the ammonia). Around 90% of the carbon dioxide produced is from the SMR process. This process consumes a lot of energy and produces around 1.8% of global carbon dioxide emissions.

### PRIME MINISTER'S EMPLOYMENT GENERATION PROGRAMME

1. Prime Minister's Employment Generation Programme (PMEGP) Scheme is a central sector scheme administered by the Ministry of Micro, Small and Medium Enterprises (MoMSME). This scheme is a credit linked subsidy programme that was formed by merging the two schemes that were in operation till 2008, namely Prime Minister's Rojgar Yojana (PMRY) and Rural Employment Generation Programme (REGP).

2. Objectives - This scheme aims to generate employment

**Indian conglomerate Vedanta has earmarked \$15 billion for its foray into the electronic chip and display manufacturing space, and plans to scale up the investment to as much as \$20 billion (about ₹1.5 lakh crore), a senior company official said.**

**The 'Green Hydrogen' policy announced by the government on Thursday incentivises producers of this form of power but only partially, say experts. A notification by the Power Ministry on Thursday says that manufacturers of green hydrogen or ammonia may purchase renewable power from the power exchange or set up renewable energy capacity themselves or through any other developer anywhere. InterState transmission charges will be waived for 25 years and they can also bank unconsumed renewable power, up to 30 days, with distribution company. Hydrogen or ammonia is produced mostly by steam reformation with natural gas and sometimes by electrolysis, which is splitting water with electricity yielding hydrogen and oxygen. The power to execute both of these methods is sourced from hydrocarbons or natural gas. Green hydrogen results when the electricity is produced from a non-fossil fuel source such as solar or wind energy but this is currently uneconomical and the new policy aims to make this more viable.**

**About 64.08 lakh domestic passengers travelled by air in January, approximately 43% lower than the 1.12 crore who travelled in December, Indian aviation regulator said. The sector has been impacted due to the travel restrictions imposed in India and other countries in view of the COVID19 pandemic. India's largest carrier IndiGo carried 35.57 lakh passengers in January, a 55.5% share of the domestic market, the DGCA said.**

**U.S. Defense Secretary Lloyd Austin announced on Friday the sale of 250 Abrams tanks to Poland, as Washington moves to strengthen the defences of a key eastern European ally.**

**President Vladimir Putin will oversee exercises by Russia's nuclear forces involving the launch of ballistic and cruise missiles, the Defence Ministry said, in its latest show of strength at a time of acute tension with the West over Ukraine.**

**The Directorate General of Civil Aviation (DGCA) has sent an advisory to all airline operators to implement a Child Restraint System specifically designed to protect and restrain an infant or child during all phases of flight.**

opportunities in the country by setting up micro-enterprises in non-farm sector of rural and urban areas. To provide continuous and sustainable employment to traditional and prospective artisans through setting up of micro enterprises. To facilitate participation of financial institutions for higher credit flow to micro sector.

**3. Salient features - Assistance is given only to new units to be set up. Existing units or units already availed any Govt. Subsidy either under State/Central Govt. Schemes are not eligible. No income ceiling for setting up of projects.** Any industry including Coir Based projects excluding those mentioned in the negative list of the Scheme. Per capita investment should not exceed Rs. 1.00 lakhs in plain areas and Rs. 1.50 lakhs in Hilly areas.

**4. Implementation -** At the national level, the MoMSME is implementing the PMEGP since 2008-09 through Khadi and Village Industries Commission (KVIC) as nodal agency. At the state level, the scheme is implemented through State KVIC Directorates, State Khadi and Village Industries Boards (KVIBs), District Industries Centres (DICs) and banks.

**5. It is implemented through KVIC and State/ UT Khadi & V.I. Boards in Rural areas and through District Industries Centres in Urban and Rural areas in ratio of 30:30:40 between KVIC / KVIB / DIC respectively. The balance amount of the total project cost will be provided by the banks in the form of term loan and working capital.**

### **IMMUNOSENSOR FOR JAPANESE ENCEPHALITIS VIRUS**

**1. Hyderabad-based National Institute of Animal Biotechnology has developed an electrochemical based immunosensor for detecting the Non-Structural 1 (NS1) secretory protein, a biomarker for Japanese Encephalitis Virus (JEV).**

**2. NS1 secretory protein is suitable biomarker for JEV found circulating in the blood and has been reported to elicit an immune response. This immunosensor was developed by fabricating fluorine-doped Tin Oxide electrode with reduced Graphene Oxide for the rapid, sensitive and specific detection of the NS1 secretory protein.**

**3. The synthesized NS1 Antibodies were used as the bioreceptor to fabricate the electrode with reduced graphene oxide as a conductivity enhancing nanomaterial for the detection of JEV NS1 antigen (Ag).**

**4. Significance -** Detection of the NS1 instead of antibody has an added advantage since the antigen is present from day 1 of the infection and hence facilitates early detection. On the other hand, antibodies appear only after Day 4/5 of the infection.

**5. Since there is no cure available for JEV, early detection is essential to mitigate a breakout. Limit of Detection (LOD) range is more sensitive than other sensors developed for JEV. This immunosensor was also specific towards JEV NS1Ag as compared to other flaviviral NS1Ag.**

### **MALI**

**1. France and its allies in a European force have announced they will begin withdrawing troops from Mali after nearly 10 years fighting armed unrest. What's happening in Mali? Since 1960, when Mali gained independence from France, there have been five coups — and only one peaceful transition from one democratically elected president to another.**

**2. Recent coup: In 2021, President Ibrahim Boubacar Keita was overthrown in the wake of mass anti-government protests. Following this, the army detained the President and the Prime Minister. Mali: Mali is a vast country stretching into the Sahara Desert in western Africa.**

**3. Once home to several pre-colonial empires, the landlocked, arid African country of Mali is one of the largest on the continent and is among the poorest in the world.**

### **DRAFT LAW ON REFUGEE RIGHTS**

**1. The NHRC recently held a discussion on "protection of the basic human rights of refugees and asylum seekers in India". During the meet, the participants expressed concern over the issue of India not having a specific law for refugees and asylum-seekers.**

**2. It was also suggested that model laws on asylum and refugees that were drafted by the National Human Rights Commission (NHRC) decades ago but not implemented by the government could be revised by an expert committee.**

**3. Need for a law in this regard: The refugees and asylum seekers**

**The Information and Broadcasting (I&B) Ministry has prohibited the sharing of top secret or secret documents by its officials over Internet. They have also been told not to use digital assistant devices such as Amazon's Echo, Apple's HomePod and Google Home in the office and turn off digital assistants, including Alexa and Siri, in their smartphones or watches. The officials are required to deposit their smart phones outside the meeting room during discussions on classified issues.**

were entitled to the rights in Articles 14, 20 and 21 of the Constitution. Therefore, it becomes the responsibility of the state to protect these rights. There was a lack of clarity for law enforcement agencies as well. If such laws were enacted, it would give legal sanctity and uniformity, ensuring the protection of human rights.

**4.Key suggestions made: Update the two old NHRC documents regarding the domestic asylum laws and model law for refugees.** Constitute a panel/committee of scholars and domain experts to update these draft laws.