

NEWSPAPER HIGHLIGHT

Deserts are spreading northwards in Central Asia as a result of global warming. A study has found that, since the 1980s, regions with a desert climate have expanded by as much as 100 kilometres in northern Uzbekistan and Kyrgyzstan, in southern Kazakhstan and around the Junggar Basin in Northwest China.

Researchers from the Indian Institutes of Technology (IIT) at Mumbai and Kharagpur have built a microscope that can image magnetic fields within microscopic two-dimensional samples that change over milliseconds. This has a huge potential for scientific applications, such as in measuring biological activity of neurons and dynamics of vortices in superconductors.

As the capacity of the atmosphere to absorb the heat is very less, more than 90% of the extra heat that has been trapped in the climate system has been absorbed by the oceans since 1970, according to IPCC AR5, and IPCC AR6 reports. Due to this, oceans are warming globally from the surface to deeper depths. The warming of the oceans has severe consequences such as increasing intensity and frequency of extreme events, rising sea levels, melting glaciers, and changing the weather pattern across the globe.

Previous efforts have claimed that chickens were domesticated up to 10,000 years ago in China, Southeast Asia, or India, and that chickens were present in Europe over 7,000 years ago. The new studies show that this is wrong, and that the driving force behind chicken domestication was the arrival of dry rice farming into southeast Asia where their wild ancestor, the red jungle fowl, lived. Dry rice farming acted as a magnet drawing wild jungle fowl down from the trees, and kickstarting a closer relationship between people and the jungle fowl that resulted in chickens. This domestication process was underway by around 1,500 BC in the Southeast Asia peninsula. The research suggests that chickens were then transported first across Asia and then throughout the Mediterranean along routes used by early Greek, Etruscan and Phoenician maritime traders.

Cloud labs enable scientists to perform wet laboratory experiments remotely in an automated research environment. The work is basically done by machines aided by a few

INTER-STATE COUNCIL

1. Tamil Nadu Chief Minister wrote to Prime Minister asking that at least 3 meetings of the Inter-State Council should be held every year to strengthen the spirit of cooperative federalism. The Inter-State Council is a mechanism that was constituted "to support Centre-State and Inter-State coordination and cooperation in India".

2. It was established under Article 263 of the Constitution, which states that the President may constitute such a body if a need is felt for it. The Council is basically meant to serve as a forum for discussions among various governments. In 1988, the Sarkaria Commission suggested the Inter-State Council should exist as a permanent body. So, in 1990, the Inter-State Council came into existence through a Presidential Order.

3. The Clause 5 of the Order mandates that ISC meetings shall be conducted at least thrice every year. Main functions of the Council are Inquiring into and advising on disputes between states, Investigating and discussing subjects in which two states or states and the Union have a common interest, and Making recommendations for the better coordination of policy and action. Members - The Prime Minister is the chairman of the Council.

4. The Council's members include the Chief Ministers of all states and UTs with legislative assemblies, and Administrators of other UTs. Six Ministers of Cabinet rank in the Centre's Council of Ministers, nominated by the Prime Minister, are also its members. Reconstitution - The Council was reconstituted recently to have 10 Union Ministers as permanent invitees.

5. The standing committee of the Council has been reconstituted with the Union Home Minister as Chairman. Union Finance Minister and the Chief Ministers of Maharashtra, UP, and Gujarat are some of the other standing committee members. Since its constitution in 1990, the Inter-State Council has met only 11 times. Last meeting was held in 2016.

6. Committees - In 1969, the then Government of Tamil Nadu set up an expert committee to study Centre-state relations, headed by P V Rajamannar - a former Madras High Court Chief Justice. The Rajmannar Commission, which submitted a report in 1971, recommended the Inter-State Council should be constituted immediately. The last meeting (2016) included consideration of the Punchhi Commission's recommendations on Centre-State Relations (in 2010). States asked for maintaining the federal structure amid growing "centralisation". Imposition of Article 356 of the Constitution, which deals with the imposition of President's Rule in states, was a matter of concern.

BLACK DEATH

1. A new study has found that the Black Death disease originated in modern day northern Kyrgyzstan around 1338-1339. The Black Death ('mortal disease of buboes' and 'pestilence of buboes') refers to the bubonic plague. This plague, which killed millions, spread across Western Asia, Northern Africa, Middle East and Europe in 1346-53.

2. The bubonic plague, a rare zoonotic disease, is one of the deadliest epidemics in the history of humankind. Spread - The Black Death was caused by Yersinia pestis - a bacillus bacterium. The Y. pestis was spread by infected fleas that were carried by rodent hosts. It spread to human populations, who at some point transmitted it to others either through the vector of a human flea or directly through the respiratory system.

3. Symptoms - The onset of symptoms was followed by intense fever, joint pains and vomiting of blood. After the initial infection, most victims died within 2-7 days. The plague causes severe swelling in the groin and armpits (the lymph nodes), which take on a sickening black colour, hence the name Black Death.

4. The black sores can cover the body in general, caused by internal haemorrhages, were known as buboes (hard, inflamed lymph nodes) from which bubonic plague takes its name. Related Links - Bubonic Plague, Mice Plague Bubonic plague is

human technicians. The cost of the experiments is not cheap, but the fact that it is almost all done by robots makes it eminently reproducible.

A strain of *Yersinia pestis*, the bacterium responsible for the Black Death pandemic in the 1300s (AD 1346–1353), has been traced back to a fourteenth century outbreak in what is now Kyrgyzstan. The area was located on the Silk Road trade route, which might have helped the Black Death pandemic to spread westwards.

Amid continuing protests and violence over the new Agnipath scheme for recruitment of soldiers into the armed forces, the Centre has offered a slew of support measures to accommodate Agniveers in various government departments after their four year service. Defence Minister Rajnath Singh has approved reservation for Agniveers for jobs within the ambit of the Defence Ministry. Several other Union Ministries have also promised the same.

Parliamentary proceedings in a country shouldn't be used to make allegations and counter allegations against the Parliament of another country, Lok Sabha Speaker Om Birla has said. Mr. Birla made these remarks in the context of a lawmaker in the Maldives trying to move a resolution against India in the Maldivian Parliament over the controversy surrounding a suspended leader.

Telecom minister Ashwini Vaishnaw on Saturday said 5G deployment would commence in 2025 cities and towns by the year end, and indicated that India, with its current data prices significantly lower than the global average, would continue to set rate benchmarks as new services were rolled out. The 5G deployment would start from August-September, Mr. Vaishnaw said. The minister said India was developing 4G and 5G stacks, and was set to bolster its position as a trusted source for the world, in digital networks.

The government has declared the IT resources of ICICI Bank, HDFC Bank and UPI managing entity NPCI as 'critical information infrastructure,' implying any harm to them can have an impact on national security and any unauthorised person accessing these resources may be jailed for up to 10 years, according to an official notification.

In a move that could expedite the implementation of railway and

one of the three plagues caused by bacterium *Yersinia pestis* - Septicaemic plague and Pneumonic plague.

BHARAT GAURAV TRAINS

1. The Indian Railways' southern zone flagged off the country's first privately-run train under the Bharat Gaurav scheme. The first Bharat Gaurav Train (Theme-based Tourist Circuit train) will run from Coimbatore North to Sainagar Shirdi. South Star Rail is the registered service provider that operates this train. The service provider has paid Rs 1 crore as security deposit to Southern Railway for the rake with a composition of 20 coaches.

2. **Bharat Gaurav Policy Launched in 2021, the Bharat Gaurav policy allows private players to operate trains on theme-based circuits for running special tourism packages. Its objective is to showcase India's rich cultural heritage and historical places to people of India and the world,** through Bharat Gaurav Trains.

3. Trains - Anyone can approach Railways to lease the 3,033 conventional Integral Coach Factory-design coaches earmarked for this segment. Each train will have 14-20 coaches, including two guard coaches or SLR. These trains cannot be used as ordinary transport trains between an origin and destination.

4. Two options - Registered Service Providers shall be offered rakes consisting of ICF coaches under "Right to Use" model by Indian Railways (IR) for operations of Bharat Gaurav Trains. Service Providers shall also have the option of procurement of new coaches directly from production units through the Non Railway Customer (NRC) plan.

5. Model - The Bharat Gaurav operator will have to propose a business model similar to the IRCTC's model of theme-based tourist trains. The operator has the flexibility to decide the business model including routes, themes, itinerary, tariff and other attributes connected with this model. However, the operator has to take care of end-to-end service like hotel stay, local arrangements, etc. along with operating the trains.

6. The tenure of the arrangement is a minimum of two years and maximum of the codal life of the coach. Indian Railways' role - It will provide staff to drive the trains, guards and also maintenance staff on board for the coaches. Other staff, like housekeeping and catering, etc, will be deployed by the operator. It will also ensure that its entire infrastructure is in place to safely and efficiently host the train in its network. It will also give this priority in its paths, like the Rajdhani and premium trains, so that these trains are not held up or sidelined to make way for regular trains.

CRYPTO LENDING

1. A U.S. cryptocurrency lending company Celsius Network froze withdrawals and transfers, citing "extreme" market conditions, sparking a sell-off across crypto markets. Crypto lending is essentially banking for the crypto world. Just as customers at traditional banks earn interest on their savings in dollars or pounds, crypto users that deposit their cryptocurrency (bitcoin or ether) at crypto lenders also earn money, usually in cryptocurrency.

2. A cryptocurrency-backed loan uses digital currency as collateral, similar to a securities-based loan. The basic principle works like a mortgage loan or auto loan - you pledge your crypto assets to obtain the loan and pay it off over time.

3. Crypto lenders make money by lending digital tokens to investors or crypto companies, who might use the tokens for speculation, hedging or as working capital. Upside - Low interest rates, loan amount is based on asset value, choice of loan currency, no credit check, fast funding, ability to lend crypto. Downside - Unlike traditional regulated banks, crypto lenders aren't overseen by financial regulators - so there are few rules on the capital they must hold, or transparency over their reserves.

4. That means that customers who hold their crypto at the platforms could lose access to their funds - as happened with Celsius on Monday. Crypto lenders also face other risks, from volatility in crypto markets than can hit the value of savings to tech failures and hacks.

5. Crypto lending has boomed over the past two years, along as decentralised finance (DeFi) platforms. DeFi and crypto lending both tout a vision of financial services where lenders and borrowers bypass the traditional financial firms that act as gatekeepers for loans or other products.

highway projects across the country, the Centre has asked the Ministry of Railways and the National Highways Authority of India (NHAI) to use the soil or silt excavated from ponds and tanks in all districts under the Amrit Sarovar mission for their infrastructure projects. The water conservation mission launched by Prime Minister Narendra Modi on April 24 aims at developing and rejuvenating 75 waterbodies in each district in all States as part of the celebrations of Azadi ka Amrit Mahotsav. At least 50,000 waterbodies are expected to be rejuvenated during the nationwide programme that would culminate on August 15, 2023.

ABDM SANDBOX

1. Ayushman Bharat Digital Mission Sandbox was created as a part of the ABDM mission. It will act as a framework for technology and product testing.

2. It will help organisations, including private players planning to be a part of the National Digital Health Ecosystem, become a Health Information Provider or Health Information User or efficiently link with building blocks of ABDM.