

NEWSPAPER HIGHLIGHT

The Supreme Court sought the government's response on the creation of an independent Indian Environment Service in the "All India Service cadre". A specialised environment service in the lines of one recommended by the T.S.R. Subramanian Committee report in 2014. The Committee, constituted by the Environment Ministry, in its report on November 18, 2014, had categorically recorded that the necessary institutional framework needs to be created, building on the existing systems, to meet future ecological demands, and ecological imbalance.

Startups raised a record \$24.1 billion in 2021, a twofold increase over preCOVID19 levels, according to a new study by NASSCOM and Zinnov. According to the study, 'Indian Tech Startup Ecosystem: Year of The Titans', more than 2,250 startups were added in 2021, over 600 more than what was added in the previous year. The study said: "Startups raised USD 24.1 billion in 2021, a twofold increase over pre-COVID levels. In comparison to 2020, there was a 3X increase in the number of high value deals (deals > USD 100 million), demonstrating investor confidence with a pool of active angel investors of 2400+ and a readiness to take significant risks."

The Zoological Survey of India has underlined some green rules for the living root bridges of Meghalaya to get the UNESCO World Heritage Site tag. CM Conrad K. Sangma pitched for UNESCO recognition as the hill State marked its 50th year of creation. A living root bridge is like a suspension bridge formed by guiding the pliable roots of the rubber fig tree (*Ficus elastica*) across a stream or river and allowing the roots to grow and strengthen over time.

A joint forum of apple dealers from Kashmir, Himachal Pradesh and Uttarakhand chapters has written a letter to the Ministry of Agriculture to stop "the illegal sale of Iranian apples which is posing quarantine pest threat" to local apple producing regions of the country. "We demand an immediate ban should be imposed on the import of apples from Iran and the duty for other imported apples be raised to 100% with a minimum billing of \$1/kg for calculation of duty to avoid dumping of produce in our country."

SARASWATI RIVER

1.Haryana and Himachal Pradesh are about to sign an MoU on plan to revive Saraswati river. The revival of the Saraswati River will be done by building the Adi Badri Dam at the starting point of the river in order to maintain a round-the-year flow.

2.The 'Lost Saraswati River' in North-Western India is the holiest and mightiest river of the Vedic Period (8000-5000 BP). The Saraswati River is mentioned between the east of Yamuna and west of Sutlej in the early Rigvedic 'Nadistuti' hymn. This river is a trans-boundary to India as well as to Pakistan.

3.Vedic Saraswati River originated in the Himalayas and flowed between Indus River in the west and Ganges River in the east through Punjab, Haryana, western Rajasthan and Gujarat. It is finally drained into Gulf of Kachchh in Arabian Sea.

4.Significance - The name 'Saraswati' has been used in most of the ancient literatures like Vedas, Manusmriti, Mahabharata and Puranas. The sites of Harappan civilization were discovered along the banks of the Saraswati River.

5.This River disappeared around 5000 BP due to climatic and tectonic changes. It is believed that River Saraswati is still flowing below the Thar desert and its Himalayan connectivity is alive. The relict of this lost river is preserved as palaeochannels under the cover of aeolian sand / alluvium.

GENETIC RISK FACTORS FOR HEART FAILURE

1.Scientists at the CSIR-Centre for Cellular and Molecular Biology (CCMB) identify genetic mutations that cause dilated cardiomyopathy, a common cardiovascular disease that often results in heart failure. The mortality rate due to cardiovascular diseases is very high in India, compared to western countries. Severe cardiomyopathy is one of the cardiovascular diseases, where heart failures are common.

2.Cardiomyopathy changes the integral structure of the heart muscle, and as a result, the heart is unable to pump blood efficiently. This increases the risk of heart failure leading to sudden cardiac death. There are many types of cardiomyopathies. Dilated cardiomyopathy is the most common form.

3.A gene called beta myosin heavy chain gene (β -MYH7) is one of the major genes implicated in cardiac diseases globally. The researchers sequenced this gene from dilated cardiomyopathy patients along with ethnically matched healthy controls to identify the mutations that are associated with the disease in Indian patients.

4.The study revealed 27 variations, of which 7 were novel and were detected exclusively in Indian dilated cardiomyopathy patients. These included four which were what are called missense mutations.

5.They were predicted to be pathogenic by bioinformatics tools. This study can help in developing gene-editing methods that may rescue cardiac contractility of failing hearts among Indians with the novel mutations.

CARBON FOUND IN MARS

1.Newly discovered carbon in Mars by the NASA's Curiosity rover may yield clues to ancient Mars. Since the NASA's Curiosity rover landed on Mars in 2012, it has roamed Gale Crater that has exposed layers of ancient rock. The rover drilled into the surface of these exposed layers and recovered samples from buried sedimentary layers. It has sent these results back home for researchers to interpret. By looking at the amounts of the carbon isotopes in a substance, the researchers can determine specifics about the carbon cycle that occurred, even if it happened a very long time ago.

2.The amounts of carbon 12 and carbon 13 in our solar system are the amounts that existed at the formation of the solar system. Both exist in everything, but because carbon 12 reacts more quickly than carbon 13, looking at the relative amounts of each in samples can reveal the carbon cycle.

3.Process - Curiosity heated the samples in the absence of oxygen to separate any chemicals. Spectrographic analysis of

Tiger census will commence at Bandipur and at Nagarhole on Sunday as part of the All India Tiger and Mega Herbivore Estimation. This is part of the nationwide enumeration that is held once in four years and is the fifth such exercise being taken up — the earlier ones being held in 2006, 2010, 2014, 2018. The authorities at Bandipur have divided the 912.04 sq km national park into three blocks to carry out the enumeration. In the 2018 census, there were 125 tigers in Nagarhole whereas there were 72 tigers in the 2014 exercise which was a big jump. But experts believe the tiger numbers at both Bandipur and Nagarhole may have reached their optimum levels and could have stabilised or shown a marginal increase this year.

The Union government is awaiting approval of the Securities Exchange Board of India (SEBI) for enabling common citizens to invest at least ₹1 lakh in infrastructure projects under a new model for asset monetisation, Road Transport and Highways Minister Nitin Gadkari said on Friday. “Most of the pension funds and foreign investors are investing in the projects. But we should take the cooperation of Indian people, particularly those who can invest a minimum ₹1 lakh in road projects, for which we have already developed a new model. We are awaiting approval from SEBI so that the common man can invest in NHAI (National Highways Authority of India).

The iconic Amar Jawan Jyoti, which was inaugurated after the 1971 Liberation War of Bangladesh by former Prime Minister Indira Gandhi, was removed, even as Prime Minister Narendra Modi announced the construction of a statue of Subhas Chandra Bose, restructuring the symbolism around the India Gate.

Lack of counterterrorism cooperation between countries only “emboldens” terrorists, said Foreign Secretary Harsh Shringla, citing the 26/11 Mumbai attacks in which people of several nationalities were killed; last week’s Texas Synagogue shootout involving a British citizen of Pakistani origin; as well as the drone attack by Yemeni Houthis in the United Arab Emirates where two Indians died, as examples of this.

The Supreme Court on Friday asked for the government’s response to a plea seeking the effective implementation of a provision in the Right to Information Act, which obliges public authorities to suo motu disclose information to the

a portion of the reduced carbon produced by this pyrolysis showed a wide range of carbon 12 and carbon 13 amounts depending on where or when the original sample formed. Some carbon was exceptionally depleted in carbon 13 while other carbon samples were enriched.

4. Analysis of carbon isotopes 12 and 13 in sediment samples leave the researchers with 3 plausible explanations for the carbon’s origin, Cosmic dust from galactic dust cloud, Ultraviolet degradation of carbon dioxide to organic compounds like formaldehyde, or Ultraviolet degradation of biologically produced methane. All these three scenarios are unconventional, unlike processes common on Earth. But we need more data to figure out which of these is the correct explanation.

EPSTEIN-BARR VIRUS-LEADING CAUSE OF MULTIPLE SCLEROSIS

1. A new study suggests that most Multiple Sclerosis (MS) cases could be prevented by stopping Epstein-Barr virus (EBV) infection, and that targeting EBV could lead to the discovery of a cure for MS. Multiple sclerosis (MS) is a potentially disabling disease of the brain, spinal cord and optic nerves (Central Nervous System).

2. **In MS, the immune system attacks the protective sheath (myelin) that covers nerve fibers and causes communication problems between your brain and the rest of your body.** Eventually, the disease can cause permanent damage or deterioration of the nerves.

3. Symptoms of MS vary widely and depend on the amount of nerve damage and which nerves are affected. Numbness or weakness in one or more limbs that typically occurs on one side of your body at a time, or your legs and trunk Electric-shock sensations that occur with certain neck movements, especially bending the neck forward (Lhermitte sign) Tremor, lack of coordination or unsteady gait Both males and females may lose interest in sex (Sexual dysfunction).

4. Some people with severe MS may lose the ability to walk independently or at all, while others may experience long periods of remission without any new symptoms. Treatment - There's no cure for multiple sclerosis. However, treatments can help speed recovery from attacks, modify the course of the disease and manage symptoms.

JUSTICE CLOCK

1. Two digital services for Gujarat High court — a ‘Justice Clock’, and electronic payment of court fee, were recently inaugurated. ‘Justice Clock’-It is an LED display of 7 feet by 10 feet, placed at a height of 17 feet from the ground. Placed in high court premises. This ‘Justice Clock’ will exhibit vital statistics of the justice delivery system in Gujarat, to “maximise outreach and visibility” of the work done by the state judiciary.

2. What is e-court fee and how will it help-**The online e-Courts fee system allows advocate and parties to procure judicial stamps online through electronic payment and upon submission of a PDF receipt.** Significance of these initiatives: The two digital initiatives add to a slew of other digital measures the Gujarat HC has undertaken to cope with Covid-19. Digital transformation brings in transparency and openness in court proceedings and also provides a glimpse to the public at large of how judges function.

3. Need for Digitization? Perception about Indian courts is that courts justice delivery is with long delays and difficult for ordinary litigants. It is expected that technology will revolutionaries the justice delivery.

4. Judiciary’s Efforts During Pandemic: In the wake of the pandemic, courts began using facilities like e-filing in true earnest. In May 2020, the Supreme Court also introduced another innovation: a new system of e-filing and artificial intelligence-enabled referencing. **The latest Vision Document for Phase III of the e-Courts Project seeks to address the judiciary’s digital deprivation.** It envisages an infrastructure for the judicial system that is ‘natively digital’ and reflects the effect that the pandemic has had on India’s judicial timeline and thinking.

ISRO TEST FIRES HIGH-THRUST VIKAS ENGINE

1. The Indian Space Research Organisation (ISRO) recently conducted a successful qualification test of its High Thrust VIKAS Engine at the ISRO Propulsion Complex (IPRC) in Tamil Nadu’s Mahendragiri. The Vikas engine will power the ambitious

public in order to maintain transparency in governance.

Moscow said it wanted troops from NATO member states to leave Romania and Bulgaria as part of security demands it is seeking from the U.S.-led alliance. Russia wants the “withdrawal of foreign forces, hardware and arms” from countries that were not NATO members before 1997, the Foreign Ministry said in a statement. “These include Bulgaria and Romania,” the statement added, singling out the two former Warsaw Pact allies that joined NATO in 2004. Russia also demands that NATO must not admit new members.

The government is engaged in a pitched legal battle in the Supreme Court against importers over its decision to levy Integrated Goods and Services Tax (IGST) on ocean freight on a reverse charge basis. With tax authorities reportedly raising fresh queries even while the dispute is pending before a Bench led by Justice D.Y. Chandrachud, importers are miffed. A hearing set for January 11 was postponed after two Judges on the Bench took ill.

Gaganyaan mission into space.

2.About the Vikas engine: It is a family of liquid fuelled rocket engines. It is used in the Polar Satellite Launch Vehicle (PSLV) and the Geosynchronous Satellite Launch Vehicle (GSLV) series of expendable launch vehicles for space launch use.

3.About Gaganyaan: Formal announcement of the Gaganyaan programme was made by Prime Minister Narendra Modi during his Independence Day address on August 15, 2018. The initial target was to launch the human spaceflight before the 75th anniversary of India’s independence on August 15, 2022. With this launch, India will become the fourth nation in the world to launch a Human Spaceflight Mission after the USA, Russia and China.

4.Objectives: The objective of the Gaganyaan programme is to demonstrate the capability to send humans to low earth orbit on board an Indian launch vehicle and bring them back to earth safely.

5.Preparation and launch: Four Indian astronaut-candidates have already undergone generic space flight training in Russia as part of the Gaganyaan programme. ISRO’s heavy-lift launcher GSLV Mk III has been identified for the mission.

