

### NEWSPAPER HIGHLIGHT

Kiran Verma, who runs **Simply Blood**, a virtual blood donation platform, is on a mission to create awareness about the importance of donating blood. Kiran started his 21,000 km walk across the nation from Thiruvananthapuram on December 28 to create awareness of blood donation so that “nobody should die waiting for blood in India after December 31, 2025”.

The Supreme Court appointed a committee chaired by its former judge Indu Malhotra to inquire into a security breach that led to Prime Minister Narendra Modi’s convoy being stuck on a flyover in Punjab on January 5. A Bench led by Chief Justice of India N.V. Ramana told the five member committee to submit its confidential report at the earliest.

Sri Lanka ruled out an IMF bailout and said it plans to seek another loan from China to address an economic crisis that has led to food and fuel shortages.

Retail inflation quickened to 5.59% in December due to an uptick in food prices, while India’s industrial output grew at a subdued 1.4% in November 2021, according to data from the National Statistical Office (NSO). The inflation based on the Consumer Price Index (CPI) compares with 4.91% seen a month earlier and 4.59% in December 2020. Consumer food price inflation accelerated to 4.05% in December, as against 1.87% seen in November 2021.

The Supreme Court asked the Ministry of Home Affairs (MHA) and the police chiefs of Delhi and Uttarakhand to respond to petitions that people accused of delivering hate speeches at a Dharam Sansad organised in Haridwar have not been arrested yet. A Bench led by Chief Justice N.V. Ramana issued notice even as petitioners contended that the declarations of communal hatred made by the speakers at Haridwar and in Delhi were unlike anything seen or heard before. They had made “open calls for the extermination of an entire religious community”, senior advocates Kapil Sibal and Indira Jaising submitted.

Ratings by the Broadcast Audience Research Council for news channels will resume soon, with the organisation revising its procedures

### MAN PORTABLE ANTI-TANK GUIDED MISSILE

1. Defence Research and Development Organisation (DRDO) successfully flight tested the final deliverable configuration of Man Portable Anti-Tank Guided Missile (MPATGM). MPATGM is an indigenously developed anti-tank missile.

2. This low weight, fire & forget missile is for infantry and Parachute (Special Forces) of the Indian Army. It can be 'Soft' launched from a man portable launcher using an Ejection Motor. **3. The missile has miniaturised infrared imaging seeker for homing on to the designated target and destroying it.** The missile is designed for a maximum range of 2.5 km. It also has advanced avionics for on-board control and guidance.

### GRIME-EATING BACTERIA

1. Scientists have started using grime-eating bacteria extensively to restore classical art. **Usually, art restorers have usually employed chemical agents and, more recently laser techniques, to remove dirt, oil, glue, or pollutants from monuments, stoneworks, and paintings.** But in the 1980s, the bacteria *Desulfovibrio vulgaris* was first used to clean a marble monument at the Cave Hill Cemetery in US.

2. Since then, the role of micro-organisms has been recognised in protecting the artistic heritage of humanity. The process of using bacteria to restore classical art is called Bio-cleaning. The living bacterial cells were suspended in a gel and applied to the vertical walls and left for 24 and 48 hours.

3. When the gel was removed, the inorganic dark brown layer and the other deposits were removed by the bacteria. The treatment was soft & delicate and didn't show any structural damage. Other microbes used - *Pseudomonas stutzeri* CONC11 bacterium isolated from the waste of a tannery, *Rhodococcus* sp. ZCONT that came from soil contaminated with diesel. The Archaeological Survey of India is exploring the option of employing bio-restoration at the Taj.

### RED SANDERS

1. Red Sanders has fallen back into the 'endangered' category in the International Union for Conservation of Nature's (IUCN) Red List. Red Sanders or Sandalwood (*Pterocarpus santalinus*) is an Indian endemic tree species, with a restricted geographical range in the Eastern Ghats. It is endemic to a distinct tract of forests in Andhra Pradesh.

2. This light-demanding species grows in the rocky, degraded and fallow lands with Red Soil and hot and dry climate. Specialty - Red Sanders is known for their rich hue and therapeutic properties. They are high in demand across Asia, particularly in China and Japan, for use in cosmetics and medicinal products as well as for making furniture, woodcraft and musical instruments. Status - Red Sanders was classified as 'near threatened' in 2018 and has now joined the 'endangered' list once again in 2021.

3. The IUCN's Red List summary states that while the species retained its geographical area despite harvesting since the 16th century, its population saw a sharp decline of 50-80%. Threats - Over-exploitation

4. IUCN Red List - **The IUCN Red List of Threatened Species is the world's most comprehensive inventory of the global conservation status of plant and animal species. It uses a set of quantitative criteria to evaluate the extinction risk of thousands of species.** These criteria are relevant to most species and all regions of the world.

5. The status ranges from 'least concern' for the species that are abundant in numbers to 'extinct' for those that have completely disappeared from the planet. Species that come under 'critically endangered', 'endangered' and 'vulnerable' categories are considered threatened.

### EQUITY STAKE

1. The government is set to own 35.8% in Vodafone Idea and 9.5% in Tata Teleservices after these operators decided to offer equity stake against their dues related to spectrum auction

and protocols.

As India and China held the 14th round of Corps Commander level talks on Wednesday, Army chief Gen. Manoj Naravane said that while there has been partial disengagement in eastern Ladakh, the threat has by no means reduced and the Army has bolstered its position “manifold” in the last year and half. He also said the new Chinese border law that came into effect on January 1 is unlikely to have any military ramifications and if any, the Army is adequately prepared to handle them.

The Parliamentary Standing Committee (PSC) on Home Affairs, headed by Anand Sharma, has written to the Union Home Secretary to provide information on the Tek Fog app allegedly used to manipulate social media trends. Confirming that Mr. Sharma has written to the Union Home Secretary, a source told that the head of the parliamentary panel on Home Affairs asked the Home Ministry to coordinate with other Ministries concerned and submit a response to the panel by January 20. The parliamentary panel, thereafter, plans to take up the issue for discussion, the source said.

Tamil Nadu Chief Minister M.K. Stalin urged the Union government to abolish the all India quota in the fully State funded medical institutions. He said it was a huge disincentive to the States that had prioritised health by earmarking massive resources for running these institutions. Despite the huge amount of State investments, 50% of the postgraduate seats and 15% of the undergraduate seats were being surrendered to the all India quota based on the scheme drawn up by the Supreme Court.

The NATO allies warned Russia that they would not compromise on the alliance's right to defend its eastern members to avoid further conflict in Ukraine, but invited Moscow to further talks on calming security concerns. Speaking after talks with Russian envoys at NATO headquarters in Brussels, alliance Secretary General Jens Stoltenberg warned: “There are significant differences between NATO allies and Russia on these issues.”

Hong Kong will draw up a host of new national security crimes, the city's leader said on Wednesday, as she presided over the first session of a new “patriots only” legislature scrubbed of political opposition. The current national security law defines four crimes — secession, subversion, terrorism and colluding with foreign forces — and offenders can face up to life in prison.

instalments and AGR payments.

2. An equity stake is the percentage of a business owned by the holder of some number of shares of stock in that company. Shareholders of an equity stake in a company may exercise some level of control, influence, or participation in the activities of the company.

3. **Ways - The most usual way to build up an equity stake is through the purchase of equity shares in the open market. But, the smaller companies may simply create such a stake for an investor through a contract.** Businesses that wish to incentivise their employees sometimes give them an equity stake, and troubled companies sometimes offer their creditors equity stakes in lieu of the debt.

#### BIO-MINING OF SOLID WASTE

1. Putting an end to the delay in starting the biomining of legacy waste at the Brahmapuram waste management plant, Zonta Infratech - the agency entrusted with the work, has set up its office at the plant. In the Bio-mining/ Landfill mining process, the garbage is treated with bio organisms or natural elements like air, sunlight, etc Bio-mining is a technically assisted and economically managed extraction of recyclables and other revenue-generating fractions from waste materials already been disposed of by landfilling.

2. Bio-mining of dumpsites is aided by bioremediation process. Bioremediation is a microbe-mediated degradation of organic waste carried out by adding biological inoculum to the dumpsite. But, bioremediation is only possible for dumpsites having a higher organic content.

3. **Bioremediation of legacy waste does not necessarily give efficient results in old / aged landfills where the waste has already reached the maximum level of microbial degradation.**

Legacy Wastes Legacy wastes are those that have been collected and kept for years at some barren land or a place dedicated for Landfill. They are the result of uncontrolled and continuous dumping of municipal solid waste.

4. In India, the legacy wastes has predominantly 4 fractions of waste, Fine soil / sand-like material, Scrap polymeric and combustible materials, Stones (greater than 20 millimetres in size) and Miscellaneous items. The composition of legacy waste majorly depends upon the landfills' age. Older the landfill, the higher the fraction of residual organic waste or fine-fraction (mass remaining after microbial degradation). The higher proportion of fine soil-like material in the dumpsite is attributed to the microbial decomposition / degradation of the organic waste inside the dumpsite.

#### BIO-MINING OF METALS

1. Biomining is the process of using microorganisms (microbes) to extract metals of economic interest from rock ores or mine waste. Biomining techniques may also be used to clean up sites that have been polluted with metals. Biomining is used for metals that are commonly bound up in solid minerals.

2. These metals can be more easily recovered when dissolved (by using microbes that can oxidize them) than from the solid rocks. Most biomining operations target valuable metals like copper, uranium, nickel, and gold that are commonly found in sulfidic (sulfur-bearing) minerals. Microbes oxidize sulfidic minerals, converting metals like iron and copper into forms that can dissolve more easily. Processes - When the metal of interest is directly dissolved, the biomining process is called “bio-leaching”.

3. When the metal of interest is made more accessible or “enriched” in the material left behind, it is called “bio-oxidation.” Both processes involve microbial reactions that can happen anywhere the microbes, rocks, and necessary nutrients, like oxygen, occur together.

4. **Risk - The greatest environmental risks are related to leakage and treatment of the acidic, metal-rich solution created by the microbes (similar to the acid mine drainage from some abandoned mines).** This risk can be managed by ensuring that bio-mining is conducted under controlled conditions with proper sealing and waste management protocols.

#### SIKH TAKHT

1. Delhi Assembly has passed an amendment bill to “Delhi Sikh Gurdwara Act, 1971” which recognises the “**Takht Damdama Sahib**” as **fifth Takht of Sikhs. Takht (Throne) is a seat of temporal authority for Sikhs.**

2. Presently, there are five Sikh Takhts. Out of them, three are in

**Kim Jong Un personally oversaw the successful test of a hypersonic missile, state media said on Wednesday, and urged North Korea to press ahead with building more “strategic military muscle” despite international sanctions over its nuclear weapons programme.**

**Stateowned RailTel said it will set up several ‘edge data centres’ in railway premises across 102 locations in public private partnership mode. The project is expected to attract investments of more than ₹500 crore. “The major benefit of an edge data centre is the quick delivery of services with minimal latency.**

Punjab, one in Maharashtra and one in Bihar. The Sikh Takhts issue hukumnamas from time to time on issues related with Sikh community.

**3.**Since, Akal Takht is supreme among them, any order concerning the entire community is issued from Akal Takht.