KSG:NEWSPAPER CRUX

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NEWSPAPER HIGHLIGHT

Even as the music world was struggling to come to terms with the passing of Pandit Shiv kumar Sharma, the news of the demise of another santoor legend, Pandit Bhajan Sopori (19482022), on Thursday came as a rude shock. Hailing from a musician's family that nurtured the Shaivite, Sufi, and Hindustani classical traditions in Kashmir for generations, Pt. Sopori led the revival of Sufi and folk music in the State to spread the message of humanism. He remained positive even when the insurgency engulfed his home district of Sopore, and kept organising events at the grassroots.

37.8 percentage rise in hate speech on the social media platform, Facebook in April when compared to March, according to a monthly report released by Meta. Violent and incitement related content on Instagram also increased by 86% in the same month. According to the report released on May 31, Facebook detected 53,200 cases of hate speech in April, compared to the 38,600 in March. Instagram acted on 77,000 violence and incitement-related content in April compared to the 41,300 in March.

1 million number of people displaced within Myanmar, with over half of them losing their homes after a military takeover in February 2021, according to a report by the UN Office for the Coordination of Humanitarian Affairs. Myanmar's army seized power from the elected government of Aung San Suu Kyi in 2021, triggering widespread peaceful protests. The nonviolent opposition turned into armed resistance, and the country slipped into civil war. The military has hindered access to areas not under its control, hampering aid efforts.

13 rail projects undertaken by the coal Ministry as part of the Gati Shakti Nation Master Plan (NMP) to develop multimodal connectivity and identify missing infrastructure gaps. Four railway projects are successfully mapped in the NMP portal under high impact projects which will be developed in Jharkhand and Odisha. The Ministry informed that this will enable the movement of coal with rapid logistics and wider connectivity for all commercial miners. The Gati ShaktiNMP was launched in October 2021.

ANJALI PONNUSAMY

1.The Prime Minister has condoled the passing away of the distinguished Indian National Army (INA) Veteran Anjalai Ponnusamy from Malaysia.

2.Though she was not born and raised in India, , Madam Anjalai joined the INA's Rani of Jhansi regiment, at the age of 21 (1943). [INA's Rani of Jhansi regiment is the first Women's army in the world.] She was trained in combat operation.

3.She has the experience of following the troops right up to the Burma-India Border in the effort to liberate India from the British Rule. She was also awarded with the title "Veera Thaai" (Valiant Mother) by the Netaji Service Centre, Malaysia.

ARTILLERY ROCKETS

1.The U.S. would send its most advanced artillery rocket launcher HIMARS to the Ukrainian military in the hope of giving it an edge over Russia. Artillery rocket is a weapon that is typically propelled by a solid-fuel motor and can carry a variety of warheads. In the 1970s, the US designed the Multiple Launch Rocket System (MLRS) for use in the event that Russian armored vehicles massed for World War III on the border of Western Europe.

2.The M270 MLRS launcher was an armored vehicle that could carry two "pods" of munitions, including a guided missile for Army Tactical Missile System (ATACMS). HIMARS - Later, the US introduced a more easily transportable version called M142 High Mobility Artillery Rocket System (HIMARS) truck. HIMARS are a high-tech, lightweight rocket launcher that is wheel mounted, giving it more agility and manoeuvrability on the battlefield.

3.Major advantage is that it the GPS guided rockets can be reloaded in about a minute with only a small crew. Unlike its predecessor, the HIMARS truck carries only one pod of munitions. But it can move much faster on and off-road. **GMLRS - The warhead in each M31 Guided MRLS (GMLRS) rocket contains a single charge of about 200 pounds of high explosives, while the 155 mm shells fired by howitzers contain about 18 pounds.**

4.The GMLRS rockets can be fired singly or in a ripple of all six in just seconds, rivaling the power of an airstrike dropping guided bombs. Using the HIMARS and GMLRS together can offer an amount of firepower that is similar to an airstrike.

NANOALLOYS

1.Under the 'National Supercomputing Mission', scientists have used Machine Learning to develop a design map of alloys at the nanoscale which can help predict the match of pairs of metals that can form bimetallic nanoalloys. Nanoalloy is an alloy consisting of dispersed nanoparticles of two or more metals. In these nanoalloys, one metal forms the core and another stays on the surface as a shell. So, they are called core-shell nanocluster alloys.

2.The following factors play a part in which metal forms the core, and which stays on the surface as a shell in the core-shell structures, **Cohesive energy difference, Atomic radius difference, Surface energy difference and Electronegativity of the two atoms. Relative importance of the key factors depends on the subset combinations like alkali metal-alkaline earth, transition metal-transition metal etc.**

3.If the difference in the cohesive energies between the two types of atoms is very small, the nanoclusters constitute a random mix of both the metals. If the difference in the cohesive energies is very large, the atoms get segregated into a structure having two faces.

4.The faces will be one face of A atoms and another face of B atoms called the Janus structure named after two-faced Greek God. Using 'machine learning', the computers can be programmed to predict the behaviour of these nano alloys and more. Use - Machine learning was used to search for cheaper substitutes of naturally occurring rare earth material, whose

10 stolen sculptures handed over to the Tamil Nadu Government by the Central Government after being retrieved from Australia and the U.S. The collection of antiquities included figurines named Dwarapala, Nataraja, Kankalamurti Kadayam, Nadikeswara Kadayam, FourArmed Vishnu, Sri Devi, Siva and Parvati, Standing Child Sambandar and Child Sambandar. During the handingover ceremony, Culture and Tourism Minister G. Kishan Reddy said that the Centre will take initiatives to bring back antiquities from abroad.

20 percentage of Ukraine's territory currently occupied by Russia, Ukrainian President Volodymyr Zelensky told Luxembourg's parliament in a video address on Thursday. He added that the front lines of battle stretched across more than 1,000 kilometres. The President had informed that 2,00,000 children are among the Ukrainians who were forcefully taken to Russia and dispersed across the vast country. It has been estimated that more than 12 million people have been displaced in Ukraine.

India has sent a multimember team of senior diplomats to Afghanistan for the first time since the Indian Embassy in Kabul was evacuated in August 2021 following the arrival of the Taliban at the Afghan capital. During discussions with the Indian delegation held on Thursday, the Taliban urged India to reopen its Embassy in Kabul.

India and Israel signed a 'vision Statement' to deepen the long-standing defence cooperation. This was adopted at a meeting between Defence Minister Rajnath Singh and his visiting Israeli counterpart Benny Gantz. "The two Ministers presented a joint declaration marking 30 years of Israel India relations.

The government has proposed a new panel that will have the power to overturn the decisions related to content moderation and takedown reached by social media platforms such as Facebook, Twitter and YouTube, following appeals by users. As per the draft of the proposed amendments to the IT Rules, 2021, the Centre will constitute one or more "grievance appellate committees" to deal with appeals by users against the decision of the grievance officer appointed by the social media intermediary.

Prime Minister Narendra Modi has assured Sri Lanka of immediate supply of fertilizer, the Sri Lankan President has said, as the island braces for a food crisis amid a supply is monopolised by the countries where their mines happen to be located.

NANOBOTS FOR DEEP-CLEANING TEETH

1.Theranautilus, a startup incubated at Indian Institute of Science (IISc), has shown that nanobots can be used to deep clean teeth by manipulating them using a magnetic field. These nano-sized robots can help kill bacteria deep inside dentinal tubules and boost the success of root canal treatment.
2.Root canal is a procedure involving removal of infected soft tissue inside the tooth, called the pulp, and flushing the tooth with antibiotics or chemicals to kill bacteria that cause the infection.
3.But often the treatment fails to completely remove all the bacteria - especially antibiotic-resistant ones such as Enterococcus faecalis - remain hidden inside the dentinal tubules. [The dentinal tubules are microscopic canals in the tooth.]
4.Working - The helical nanobots made of silicon dioxide coated with iron can be controlled using a device that generates a low intensity magnetic field. These nanobots were then injected into extracted tooth samples and their movement was tracked using a microscope. By tweaking the frequency of the magnetic field, the nanobots can be made to move at our will, and penetrate deep inside the dentinal tubules.

POLLUTION-RELATED WORKPLACE DEATHS & GDP

1.A report by the Lancet Commission on Pollution and Health has found that most of the pollution-related workplace deaths are found in countries with the highest Gross Domestic Product (GDP).
2.This report was based on 2019 data. Most of the highest GDP countries had a low proportion of pollution deaths in the overall population: 90% of pollution-related deaths occur in low-income & middle-income countries. This underscores the disparity in which these places treat pollution within the four walls of workplaces and outside.
3.While the majority of these people are in the developing world, the blue-collar workers in rich countries also face consequences of hazardous pollution. Findings - Occupation-related premature deaths due to pollution was the highest in the United Kingdom (UK) among the top-10 GDP countries. The UK has the fifth-highest GDP in the world.
4.The United States - the world's biggest economy - ranked 18th overall and 12th within countries over 10 million population. China, which is the second-biggest economy, has ranked 17th. Japan, which is the third-biggest economy, has ranked 19th. India, the sixth-largest economy, ranked 40th position globally with 12.15 pollution-related occupational deaths every 100,000 workers.
5.The report counters the popularly promoted notion and theory that technology and working ambience in the developed countries are much better than that of the developing and under-developed countries.

IMPORTANT FINDINGS RELATED WITH THE POLLUTION DEATHS

1.In the past two decades, deaths caused by the modern forms of pollution have increased by 66%, driven by industrialisation, uncontrolled urbanisation, population growth, fossil fuel combustion. This also includes the factor of an absence of adequate national or international chemical policy.
2.Despite declines in deaths from household air and water pollution, pollution still causes more than 9 million deaths each year globally.
3.This number has not changed since 2015. More than 90% of pollution-related deaths occur in low-income and middle-income countries. Most countries have done little to deal with this enormous public health problem.
4.The triad of pollution, climate change, and biodiversity loss are the key global environmental issues of our time. These issues are intricately linked and solutions to each will benefit the others.

WHY NEPTUNE AND URANUS APPEAR IN DIFFERENT COLOURS

1.Neptune and Uranus have a lot in common, such as similar masses, sizes, and atmospheric components, but their colours are very different.

crushing economic meltdown.

The four metre International Liquid Mirror Telescope (ILMT) saw the first light recently, gazing out from its vantage on Devasthal, a hill in Uttarakhand, into the deep sky. The telescope, staring at the sky overhead, will make sky surveys possible and obtain images that can help observe transient phenomena such as supernovae and record the presence of space debris or meteorites — basically, watch the skies. The telescope has been built by a collaboration of scientists from Canada, Belgium and India. It is located at an altitude of 2,450 metres on the Devasthal Observatory campus of the Aryabhata Research Institute of Observational Sciences (ARIES) in Nainital district.

2.Neptune is a rich, deep azure colour at visible wavelengths, while Uranus is a notably light shade of blue. Astronomers have now found the explanation for this. The cloud around Uranus is thicker than around Neptune, which explains why.

3.Uranus seems lighter in tone than Neptune because of its lethargic, sluggish atmosphere. If there was no haze in Neptune's and Uranus' atmospheres, the blue light scattered in their atmospheres would make both appear nearly identically blue.