

### NEWSPAPER HIGHLIGHT

A Japanese professor has developed a prototype lickable TV screen that can imitate food flavours, another step towards creating a multisensory viewing experience. The device, called Taste the TV (TTTV), uses a carousel of 10 flavour canisters that spray in combination to create the taste of a particular food. The flavour sample then rolls on hygienic film over a flat TV screen for the viewer to try. In the COVID19 era, this kind of technology can enhance the way people connect and interact with the outside world. "The goal is to make it possible for people to have the experience of something like eating at a restaurant on the other side of the world, even while staying at home.

The world's most powerful space telescope on Saturday blasted off into orbit, headed to an outpost 1.5 million kilometres (9,30,000 miles) from Earth, after several delays caused by technical hitches. The James Webb Space Telescope, some three decades and billions of dollars in the making, left Earth enclosed in its Ariane 5 rocket from Kourou Space Centre in French Guiana. It is expected to take a month to reach its remote destination. It is expected to beam back new clues that will help scientists understand more about the origins of the Universe and Earthlike planets beyond our solar system. Named after a former NASA director, Webb follows in the footsteps of the legendary Hubble — but intends to show humans what the Universe looked like even closer to its birth nearly 14 billion years ago.

An international group of researchers has succeeded in measuring for the first time the characteristics of a flare on a distant magnetar. A magnetar is a rare compact type of neutron star teeming with energy and magnetism. The magnetar they have studied is about 13 million light years away, in the direction of the NGC 253, a prominent galaxy in the Sculptor group of galaxies. The flare, which spewed within a few tenths of a second as much energy as the Sun would shed in 100,000 years, was captured accidentally on April 15, 2020, by the Atmosphere Space Interactions Monitor instrument (ASIM) of the International Space Station.

Astronomers at the European Southern Observatory, have

### PLI SCHEME FOR SEMICONDUCTOR GOODS

1.The Centre sanctioned Rs. 76,000 crore under the production-linked incentive (PLI) scheme to encourage the manufacturing of various semiconductor goods within India. Purpose - The scheme comes amid an inadequate supply of semiconductor chips in the global market which has severely affected the supply of goods such as cars, laptops and phones. Aim - Under the PLI scheme, the Centre will offer financial support to companies that want to manufacture semiconductor goods in India.

2.The subsidy will bring down the production costs of companies manufacturing such goods, and thus encourage them to set up new factories and other facilities. It is seen as an attempt to build a strong semiconductor industry that would put an end to the country's reliance on imports to meet its semiconductor needs and is also expected to help in the creation of jobs. 3.Pros - **The scheme will give a boost to the domestic semiconductor industry. It is estimated to create over 1 lakh new jobs either directly or indirectly.** Further, increased spending by the Government in such schemes is also seen as a step to boost demand in the economy. The Centre, by offering subsidies to businesses, can play a crucial role in developing India as a global hub for electronic goods.

4.Cons - **Critics argue that the burden of subsidies (to encourage any industry) falls on taxpayers. These taxpayers will have lesser incentive to work as taxes on them rise.**

Further, subsidies can lead to misallocation of resources. Investment decisions in a market economy are generally dictated by the preferences of consumers. Projects that would otherwise not be undertaken by businesses due to lack of demand from consumers, however, may suddenly become viable when the Government subsidises part of the production costs.

5.These projects may be viable only as long as taxpayers are forced to fund the required subsidies. Finally, the risk of cronyism is high when politicians and bureaucrats get to decide which company or sector receives subsidies.

### UV INDEX

1.The UV index is produced at the Australian Radiation Protection and Nuclear Safety Agency (ARPANSA). The UV index tells you how much UV radiation of different wavelengths is around at ground level on a given day, and the potential of these wavelengths to harm your skin. In 2002, the WHO devised the UV index in an effort to make people around the world more aware of the risks.

2.The index boils down several factors into a single number that gives you an idea of how careful you need to be in the sun. A score of 1 or 2 is low, 3 to 5 is moderate, 6 or 7 is high, 8 to 10 is very high, and 11 and above is extreme. Factors - The UV index reported is usually the daily maximum - that's the highest it will be all day. How high it gets depends on factors, including your location, the time of year, amount of cloud cover, and ozone & pollution in the atmosphere.

3.**The index tends to be higher closer to the Equator and at high altitudes, as the sunlight has to pass through less air before it reaches the ground.** Another reason is that Earth is very slightly closer to the Sun in the southern hemisphere's summer than the northern summer, meaning the sunlight is a few percent brighter. So, UV is also higher. Third reason is the 'hole' in the ozone layer.

4.The ozone layer in the upper atmosphere, which absorbs some UV-B, is thinner towards the South Pole. Finally, the air in the southern hemisphere generally has less smoke, dust and other small particle pollution than in the northern hemisphere. While this makes the air nicer to breathe, pollution does absorb or block some UV radiation. Despite changing in different locations, the UV level is also changing over time.

5.The UV levels have increased in recent decades. UV Radiation Ultraviolet (UV) radiation is a component of sunlight. It is the light with wavelengths too short for our eyes to see, from 400 to 10 nanometres.

6.**The important kinds of UV radiation are, UV-A, with**

observed more than 70 rogue planets in the Milky Way. These were found in the star forming region close to the Sun. Rogue planets are not attached to a particular star. The study was published in Nature Astronomy.

Dementia is a group of symptoms that affect memory and thinking and interfere with daily life. Alzheimer's Disease is the main and major cause of dementia. Treatments to reduce the symptoms and progression of dementia can be clinical, or methods such as practising yoga, breathing exercises, brisk walking and listening to tuneful music. It is an age-related disease, affecting over 55 million people across the world. The National Health Portal of India says that as per the Census 2011, dementia affects 2.7% of the 65 million Indian Senior Citizens over 65 years of age.

Every third informal sector worker in India is now registered on the e-Shram portal with registration on the portal crossing the 14 crore mark in four months, Union Minister Bhupender Yadav said on Saturday. The national database being created on eShram portal will eventually help the government to provide various social security and other welfare benefits to unorganised workers. "eShram portal in just about 4 months 14 crore crossed.

Russia has blocked the website of a prominent human rights monitor tracking political persecution, the group said on Saturday, as authorities press ahead with an unprecedented crackdown on dissent. The move against the monitor is the latest in a year that has seen Russia's Opposition dismantled and scores of independent media and rights organisations branded as "foreign agents" or banned outright.

Ahead of the Punjab Assembly election due early in 2022, 22 of the 32 State based farmer unions that were at the forefront of the agitation against the now repealed farm laws announced they would contest the election under the banner of the Samyukt Samaj Morcha. The Samyukt Kisan Morcha (SKM), the umbrella farmers' body that spearheaded the protests, however, said it would not contest the polls.

A one of its kind 'Lado Panchayat' of girls was held in Meerut, which decided that women would not vote for candidates opposing the Prohibition of Child Marriage (Amendment) Bill, 2021, in the upcoming Assembly polls.

More than 30 people, including women and children, were killed and

wavelengths from 400 to 315 nanometres, UV-B with wavelengths from 315 to 280 nanometres and UV-C has shorter wavelengths, but are mainly blocked by the atmosphere so we don't need to worry about it. Impact - In the short term, the exposure to UV can cause tanning and sunburn. In the longer term, too much exposure to UV can cause cataracts and skin cancer. UV-A and UV-B both contribute to skin damage, ageing and skin cancer. But UV-B is the more dangerous: it is the major cause of sunburn, cataracts and skin cancer.

#### ABHYAS

1. DRDO has successfully conducted the flight test of Indigenously developed Abhyas from Integrated Test Range (ITR), Chandipur off the coast, Odisha. Abhyas is a High-speed Expendable Aerial Target (HEAT) System developed to meet the requirement of aerial targets of Indian Armed Forces.

2. It is designed for autonomous flying with the help of an autopilot. It was developed indigenously by the Aeronautical Development Establishment (ADE), Bengaluru-based DRDO laboratory. It is controlled from a ground based controller and indigenously developed MEMS-based Inertial Navigation System.

3. It also has the Flight Control Computer that helps it to follow the pre-designated path in a fully autonomous mode. It is powered by two boosters which provided the initial acceleration during the launch and a small turbo jet engine is used to sustain high subsonic speed with long endurance.

#### STELLER'S SEA EAGLE

1. A long way from its home in Asia, a rare Steller's sea eagle was spotted around Taunton River, Massachusetts. Steller's sea eagles (*Haliaeetus pelagicus*) are especially revered in Japan, where they are known as O-washi. Habitat - They are native to Russia, China, Korea and Japan.

2. They are believed to breed only in far eastern Russia, along the coasts and surrounding islands of the Sea of Okhotsk and Bering Sea. They are most common on the Kamchatka Peninsula. Migration - Each winter, many Steller's sea eagles migrate from their breeding grounds to Japan and Korea or even farther afield.

3. Other individuals do not migrate, but simply move to open water as winter approaches. Diet - Open water provides these eagles with their main food sources along coastlines and lakes. Like other eagles, Steller's also steal food from other birds.

#### ANTI-DOPING

1. National Dope Testing Laboratory (NDTL) regains the World Anti-Doping Agency (WADA) accreditation. With this, NDTL's Anti-Doping testing and activities will be resumed with immediate effect. Doping is defined by the International Olympics Committee (IOC) as, 'the use of any method or substance that might harm the athlete, in a quest to gain an unfair advantage, over his or her fellow competitors'. Doping are the performance enhancing drugs and dietary supplements that have been around since the ancient Olympic Games. These drugs are considered helpful to improve athletic performance. The use of banned drugs by athletes is referred to as 'doping'.

2. Types of Doping-Performance enhancing substance (Stimulants, Anabolic Steroids, Peptide hormones, Beta-2 Agonist, Narcotics, Diuretics, and Cannabinoids) Physical methods (Blood doping and Gene doping) Blood doping is the process of increasing the Red blood cells by blood transfusion. It increases haemoglobin allows higher amount of Oxygen to fuel an athlete's muscles. This can improve stamina and performance, particularly in long distance events. Gene doping is the non-therapeutic use of cells, genes, genetic elements or of the modulation of gene expression, having the capacity to improve athletic performance.

3. Anti-doping means opposing or prohibiting illegal doping to improve athletic performance. Anti-doping authorities state that using performance-enhancing drugs goes against the 'spirit of sport'.

4. National Anti Doping Agency-National Anti Doping Agency (NADA) was set up as registered society under the Societies Registration Act of 1860 in 2005. It was set up with a mandate for Dope free sports in India. The primary objectives are To implement anti-doping rules as per WADA code, To regulate dope control programme, To promote education and research and To create awareness about doping and its ill effects.

**their bodies burnt in Myanmar's conflict-torn Kayah state on Friday, according to a local resident, media reports and a local human rights group. The Karenni Human Rights Group said they found the burnt bodies of internally displaced people killed by the military that rules Myanmar, near Mo So village of Hpruso town.**

**Poverty, education, and exposure to a community health worker are more important than age at marriage in determining whether a mother will be able to have a safe birth in a medical facility, according to a first-of-its-kind study on utilisation of institutional delivery in the country. Published in the peer-reviewed journal Global Health Action, the study analyses data on State level maternal mortality ratio (2016 to 2018), as well as the National Family Health Survey4 (201516). It focuses on nine low performing States (LPS) with high burden of maternal mortality — Assam, Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Odisha, Rajasthan, Uttar Pradesh and Uttarakhand.**

**5. World Anti-Doping Agency**-The World Anti Doping Agency (WADA) is a foundation created through a collective initiative led by the International Olympic Committee (IOC). Established in 1999 as per the Lausanne Declaration on Doping in Sport, the WADA is an international independent agency composed and funded equally by the sport movement and governments of the world. It was found to promote, coordinate and monitor the fight against drugs in sports. **6.** Its key activities include scientific research, education, development of anti-doping capacities, and monitoring of the World Anti-Doping Code. This Code is the document harmonizing anti-doping policies in all sports and all countries. The provisions of this Code are enforced by the UNESCO International Convention against Doping in Sport. The aims of the Council of Europe Anti-Doping Convention, the US Anti-Doping Agency and National Anti Doping Agency (India) are also closely aligned with those of WADA.

