

NEWSPAPER HIGHLIGHT

Only one out of four routes under the low cost flying scheme called UDAN have survived after completing the government's subsidy period of three years, according to information shared by the Ministry of Civil Aviation before a parliamentary panel. "Of the 94 RCSUDan routes that have completed 3year tenure till 30.11.2021, only 22 routes are in operation," the Ministry told the Parliamentary Standing Committee on Transport, Tourism and Culture which tabled its report in Parliament last week.

A team of Argentine scientists is using microorganisms native to Antarctica to explore the idea of cleaning up pollution from fuels and, potentially, plastics in the pristine expanses of the white continent. The tiny microbes munch through the waste, creating a naturally occurring cleaning system for pollution caused by diesel that is used as a source of electricity and heat for research bases in the frozen Antarctic. The continent is protected by a 1961 Madrid Protocol that stipulates it must be kept in a pristine state. The research on how the microbes could help with plastic waste could have potential for wider environmental issues.

A new study that uses climate models to predict how the reduction of dissolved oxygen in water will take place finds that this process began in regions of the ocean that support marine life around 2021. The study, published in Geophysical Research Letters, predicts that this deoxygenation would begin affecting all parts of the ocean by 2080. This can impact marine ecosystems worldwide.

Scientists conjecture that the size of our Moon may play a vital role in making the Earth what it is. Added to this, researchers from Rochester University in the U.S. estimate that planets with masses more than six times that of the Earth are incapable of having such a large moon. This constraint can guide astronomers to study exomoons to spot Earthlike bodies.

A famous problem that has perplexed mathematicians since 1779 has been settled, but with a quantum twist, by a collaboration of six Indian and Polish researchers, two of whom are from Indian Institute of Technology

NORD STREAM PIPELINE

1.The Nord Stream pipeline is back in the news following the renewed tensions between the West and Russia over Ukraine. Owned by the Russian energy giant, Gazprom, Nord Stream Pipeline is the longest subsea pipeline. It is an export gas pipeline that runs under the Baltic Sea carrying gas from Russia to Europe.

2.The gas for Nord Steam comes mainly from the Bovanenkovo oil and gas condensate deposit in Western Siberia. Nord Stream consists of two pipelines, which have two lines each. Nord Stream 1 which runs from Vyborg in Leningrad (Russia) to Lubmin near Greifswald, Germany was completed in 2011. Nord Stream 2 which runs from Ust-Luga in Leningrad to Lubmin was completed in 2021.

3.Twin pipelines of the Nordstream together can transport a combined total of 110 billion cubic metres (bcm) of gas a year to Europe for at least 50 years. The pipeline's significance comes from the fact that it bypasses transit countries, making it highly reliable for European customers.

4.The Nord Stream crosses the Exclusive Economic Zones (EEZs) of several countries including Russia, Finland, Sweden, Denmark and Germany, and the territorial waters of Russia, Denmark, and Germany. In Germany, the pipeline connects to the OPAL (Baltic Sea Pipeline) and NEL (North European Pipeline) which further connects to the European grid.

PRADHAN MANTRI KISAN MANDHAN YOJANA

1.Union Minister for Agriculture and Farmers Welfare said that a total of 21,86,918 farmers are enrolled in the Pradhan Mantri Kisan Mandhan Yojana. Pradhan Mantri Kisan Maan Dhan Yojna (PMKMY) is a voluntary and contributory pension scheme for the Small & Marginal Farmers (SMFs).

2.It is being implemented in order to provide old age protection and social security net to the SMFs by way of pension. Under this scheme, provision has been made for payment of a minimum fixed pension of Rs. 3,000/- to the eligible SMFs, subject to certain exclusion clauses, on attaining the age of 60 years. Eligibility - The beneficiary should be a Small and Marginal Farmer. They must have cultivable landholding up to 2 hectares. The entry age of the scheme is 18 to 40 years.

3.The beneficiary should not be SMFs covered under any other statutory social security schemes such as NPS, Employees' State Insurance Corporation scheme, Employees' Fund Organization Scheme etc.

4.They should not have opted for Pradhan Mantri Shram Yogi Maandhan Yojana and National Pension Scheme for Traders and Self Employed Persons administered by the Ministry of Labour & Employment. Should not be from categories of beneficiaries of higher economic status. Contribution - The eligible beneficiary can opt to become member of the Scheme by subscribing to a Pension Fund. The beneficiary is required to contribute Rs 100/ - per month at median entry age of 29 years.

5.The Central Government also contributes to the Pension Fund in equal amount, managed by the Life Insurance Corporation, which is also responsible for pension pay out. Status - As the Scheme has an entry age of 18 to 40 years, no beneficiary has yet attained the age of 60 to be eligible for payment.

SAINT RANUJACHARYA

1.Prime Minister will inaugurate the Statue of Equality, a gigantic statue of Ramanujacharya, on the outskirts of Hyderabad. Born in 1017 in Sriperumbudur in Tamil Nadu, Ramanujacharya is revered as a Vedic philosopher and social reformer. Ramanuja travelled across India, advocating equality and social justice. He revived the Bhakti movement, and his preachings inspired other Bhakti schools of thought. He is considered to be the inspiration for poets like Annamacharya, Bhakt Ramdas, Thyagaraja, Kabir, and Meerabai. From the time he was a young budding philosopher, Ramanuja appealed for the

(IIT) Madras. The researchers have solved using matrix methods, the quantum equivalent of the classical problem. This could potentially be used in quantum secret sharing protocols – which will be useful when quantum computers come into play; parallel teleportation, which is a way to transferring information across distances; and even perhaps may come in useful in solving the problem of quantum gravity.

Through analysis of ice cores from Greenland and Antarctica, a research team has found evidence of an extreme solar storm that occurred about 9,200 years ago. What puzzles the researchers is that the storm took place during one of the sun's more quiet phases — during which it is generally believed our planet is less exposed to such events. It is currently believed that solar storms are more likely during the so-called sunspot cycle. Research now shows (Nature Communications) that this may not always be the case for very large storms.

Palestinian Prime Minister Mohammed Shtayyeh on Saturday urged the African Union to withdraw Israel's accreditation as the 55-member bloc opened a two-day summit in Addis Ababa. The dispute began in last July when Commission chair accepted Israel's accreditation to the bloc.

The U.S. State Department is waiving sanctions on Iran's civilian nuclear programme in a technical step necessary to return to the 2015 nuclear agreement, a senior official said on Friday. The resumption of the waiver, ended by the Donald Trump administration in 2020, "would be essential to ensuring Iran's swift compliance" if a new deal on controlling Tehran's nuclear programme can be reached in talks in Vienna, the State Department official said.

India runs the risk of being excluded from a proposal it coauthored at the World Trade Organization (WTO) negotiations, in 2020, to "temporarily waive" intellectual property rights (IPR) held, by primarily Western countries, on vaccines, therapeutics and diagnostics for COVID19. A small group" of WTO members were "discussing suggestions" to exclude drug manufacturers in India and China — two major, global suppliers of medicine — from prospective waivers to IPR obligations that result from the Trade Related Intellectual Property Rights (TRIPS) which WTO members are committed to upholding.

Finance Minister Nirmala Sitharaman asked India Inc. to invest in the economy so that the virtuous cycle kicks in. Referring to

protection of nature and its resources like air, water, and soil.

2.He went on to write nine scriptures known as the navaratnas, and composed numerous commentaries on Vedic scriptures. Ramanuja is credited with establishing the correct procedures for rituals performed in temples throughout India, the most famous being Tirumala and Srirangam. **Reason to build the Statue of Equality - Ramanuja was an advocate of social equality among all sections of people centuries ago. He encouraged temples to open their doors to everyone irrespective of caste or position in society at a time when people of many castes were forbidden from entering them.**

3.He took education to those who were deprived of it. His greatest contribution is the propagation of the concept of "vasudhaiva kutumbakam", which translates as all the universe is one family. He travelled across India for several decades, propagating his ideas of social equality and universal brotherhood from temple podiums. He embraced the socially marginalised and condemned, and asked royal courts to treat them as equals. He spoke of universal salvation through devotion to God, compassion, humility, equality, and mutual respect, which is known as Sri Vaishnavam Sampradaya.

4.The Vaishnava seer behind the Statue of Equality, Ramanujacharya's social philosophy was designed to cross the boundaries of the caste system and to embrace the whole of humanity. Ramanujacharya liberated millions from social, cultural, gender, educational, and economic discrimination with the foundational conviction that every human is equal regardless of nationality, gender, race, caste, or creed.

MOONS MAKE PLANETS HABITABLE

1.A new study has examined the moon formations and concluded that only certain types of planets can form moons that are large in respect to their host planets. Earth's moon is vitally important in making Earth the planet we know today - **The moon controls the length of the day and ocean tides, which affect the biological cycles of life forms on our planet.**

2.The moon also contributes to Earth's climate by stabilizing Earth's spin axis, offering an ideal environment for life to develop and evolve. Because the moon is so important to life on Earth, scientists conjecture that a moon may be a potentially beneficial feature in harboring life on other planets.

3.Most planets have moons, but Earth's moon is distinct in that it is large compared to the size of Earth. The moon's radius is larger than a quarter of Earth's radius, a much larger ratio than most moons to their planets. By understanding moon formations, we have a better constraint on what to look for when searching for Earth-like planets.

4.It is expected that the exomoons [moons orbiting planets outside our solar system] should be everywhere, but so far we haven't confirmed any. These constraints will be helpful for future observations.

ORIGIN OF EARTH'S MOON

1.Many scientists have historically believed Earth's large moon was generated by a collision between proto-Earth and a large, Mars-sized impactor, approximately 4.5 billion years ago. [Proto-Earth is the Earth at its early stages of development.] **The collision resulted in the formation of a partially vaporized disk around Earth, which eventually formed into the moon.** In order to find out whether other planets can form similarly large moons, the study conducted impact computer simulations, with a number of hypothetical Earth-like rocky planets and icy planets.

2.They hoped to identify whether the simulated impacts would result in partially vaporized disks, like the disk that formed Earth's moon. The researchers found that rocky planets larger than six times the mass of Earth (6M) and icy planets larger than one Earth mass (1M) produce fully -- rather than partially -- vaporized disks, and these fully-vaporized disks are not capable of forming fractionally large moons. We found that if the planet is too massive, these impacts produce completely vapor disks because impacts between massive planets are generally more energetic than those between small planets.

3.After an impact that results in a vaporized disk, over time, the disk cools and liquid moonlets -- a moon's building blocks -- emerge. In a fully-vaporized disk, the growing moonlets in the disk experience strong gas drag from vapor, falling onto the planet very quickly.

4.In contrast, if the disk is only partially vaporized, moonlets do

the government's decision to cut corporate tax rate, she said, the government had also opened up several sectors, including atomic energy and space.

not feel such strong gas drag. As a result, we conclude that a completely vapor disk is not capable of forming fractionally large moons. Planetary masses need to be smaller than those thresholds we identified in order to produce such moons.