

NEWSPAPER HIGHLIGHT

Scientists in the United Kingdom said they have achieved a new milestone in producing nuclear fusion energy, or imitating the way energy is produced in the sun. Energy by nuclear fusion is one of mankind's long standing quests as it promises to be low carbon, safer than how nuclear energy is now produced and, with an efficiency that can technically exceed a 100%. A team at the Joint European Torus (JET) facility near Oxford in central England generated 59 megajoules of sustained energy during an experiment in December, more than doubling a 1997 record, the U.K. Atomic Energy Authority said in a statement.

India is in discussion with the 10-nation bloc ASEAN for initiating the review of the FTA (free trade agreement) in goods between the two regions to seek more market access for domestic products, Parliament was informed.

Over 16,000 people committed suicide due to bankruptcy or indebtedness while 9,140 people ended their lives due to unemployment between 2018 and 2020, the Ministry of Home Affairs informed the Rajya Sabha.

The number of beneficiaries who enrolled for the maternity benefit programme, called Pradhan Mantri Matru Vandana Yojana (PMMVY), exceeded the government's target of 51.7 lakh per year in each of the last three years, Minister for Women and Child Development Smriti Irani told Parliament.

A ministerial panel under the GST Council is expected to submit its recommendations on the reset of GST rates and slabs by April, and may review the tax levies on health insurance and restaurants as part of the exercise, a top Finance Ministry official said.

The government is open to rephrasing the Finance Bill provisions criminalising the publication of certain export and import data, to assuage concerns, Revenue Secretary Tarun Bajaj said on Wednesday, stressing that the changes were made in response to pleas from traders and several ministries. "On the criminal liability for publishing of customs data... we have received this request from ministries, exporters and importers who are very much concerned about

GOITRE

1. Prevalence of self-reported goitre in National Family Health Survey (NFHS) IV (2015-2016) was 2.2%, while it was 2.9% in NFHS-V (2019-2021). Goitre may be an overall enlargement of the thyroid gland, or it may be the result of irregular cell growth. The swelling of the thyroid gland forms one or more lumps (nodules) in the front of the neck. The lump will move up & down when you swallow.

2. A goiter may be associated with no change in thyroid function or with an increase or decrease in thyroid hormones. Causes of goiter Not enough iodine or lack of iodine in your diet (most common), Hypothyroidism (Underactive thyroid), Hyperthyroidism (Overactive thyroid), An inflamed thyroid gland (thyroiditis), Hormone changes during puberty, pregnancy or the menopause, Taking some types of medicine, such as lithium, a medicine used to treat some mental health conditions, Having radiation treatment to your neck or chest area, Nodules or cysts within the thyroid, Thyroid cancer.

3. Treatment depends on the cause of the goiter, symptoms, and complications resulting from the goiter. Small goiters that aren't noticeable and don't cause problems usually don't need treatment. A wait-and-see approach is usually recommended. Other possible treatments include radioiodine treatment and thyroid surgery.

4. **Thyroid gland-Thyroid gland is a butterfly-shaped gland located at the base of the neck just below the Adam's apple. This gland is just in front of the windpipe (trachea).** This gland produces thyroid hormones, which help regulate the body's metabolism, the chemical processes that occur in the body.

EARLY DIAGNOSIS OF ALZHEIMER'S

1. A new study has revealed a pathological brain activity that precedes the onset of Alzheimer's first symptoms by many years. This finding may help early diagnosis of Alzheimer's. Normally, the neuronal activity of the hippocampus decreases during sleep in healthy animals. But in early stages of Alzheimer's, there is a pathological brain activity, which is an increased activity in the hippocampus during anaesthesia and sleep. [The hippocampal region plays a key role in memory processes, and is known to be impaired in Alzheimer's patients.]

2. This pathological brain activity is due to a failure in the physiological regulation, which is the failure in the homeostatic mechanism that stabilizes the neural network. The discovery of this abnormal activity during specific brain states may enable early diagnosis of Alzheimer's, eventually leading to a more effective treatment of a disease that still lacks effective therapies. [Each neural circuit has a set point of activity, maintained by numerous stabilizing mechanisms. This is the homeostasis mechanism.]

3. Number of people with dementia worldwide will increase from 50 million (2019) to more than 150m (2050). This huge increase in the prevalence of Alzheimer's (due to the expected rise in population growth and in life expectancy) will continue unless we develop effective treatments. Amyloid deposits, a hallmark of Alzheimer's disease pathology, are formed in patients' brains as early as 10-20 years before the onset of typical symptoms such as memory impairment and cognitive decline.

4. But, most efforts to treat Alzheimer's disease by reducing the amount of amyloid-beta proteins and their aggregation have failed. If we could detect the disease at the pre-symptomatic stage, and keep it in a dormant phase for many years, this would be a tremendous achievement in the field. So, the key to effective treatment are, Identifying a signature of aberrant brain activity in the pre-symptomatic stage of Alzheimer's and Understanding the mechanisms underlying its development.

5. **Solution - The instability in neuronal activity is known from epilepsy. An existing drug for multiple sclerosis may help epilepsy patients by activating a homeostatic mechanism that lowers the set point of neural activity.** This drug stabilizes activity and reduces pathological activity

their personal data in terms of supplier, commodity, and the prices, is actually on the dark Net and is being sold illegally by some people," he pointed out. A new section, 135AA, is proposed to be inserted into the Customs Act, which could lead to up to six months' imprisonment and fines up to ₹50,000 for persons publishing any information relating to the value or classification or quantity of goods exported from, or imported into, India.

Credit rating agency Crisil on Wednesday said that the capital expenditure spelt out in the FY23 Union Budget was "not as high as it sounds". It, however, added that considering that governments usually tend to cut capex during a crisis, the Centre has maintained focus on growth spurring initiatives amid the pandemic. The research wing of the agency said excluding the ₹11 lakh crore loans to States for capex included in the headline figure of ₹7.50 lakh crore or 2.91%, the actual spend in FY23 will dip to 2.58% of GDP, which is barely at par with the revised estimate of FY22.

The Kremlin said on Wednesday there were "positive signals" for the resolution of the Ukraine crisis following a meeting of the French and Ukrainian leaders in Kiev.

Iran unveiled a new missile on Wednesday with a reported range that would allow it to reach both U.S. bases in the region as well as targets inside its archfoe Israel.

External Affairs Minister S. Jaishankar will begin a visit to Australia on Thursday and attend a meeting of the Foreign Ministers of the Quad (India, Australia, United States, Japan), which is expected to discuss cooperation on vaccines, technology and regional security issues including related to China.

Over 40% of teaching posts in all 23 Indian Institutes of Technology (IITs) are vacant, according to data provided by the Ministry of Education in the Lok Sabha to a question raised by Congress member Shashi Tharoor. According to the data, while 6,511 teaching faculty are working in the IITs, 4,370 posts are vacant. The data once again highlighted the poor representation of faculty from reserved categories. Only 12% of the 6,511 teaching staff are from Scheduled Castes (SC), Scheduled Tribes (ST), Other Backward Classes and Economically Weaker Sections (EWS).

observed during anesthesia.

DEBT-TO-GDP RATIO

1. Debt-to-GDP ratio is the ratio of a country's public debt (combined liabilities of the Central and State governments) to its gross domestic product (GDP). Debt to GDP Ratio = Total Debt of Country / Total GDP of Country This ratio is the metric comparing a country's public debt to its GDP.

2. By comparing what a country owes with what it produces, this ratio reliably indicates that particular country's ability to pay back its debts. Often expressed as a percentage, this ratio can also be interpreted as the number of years needed to pay back debt if GDP is dedicated entirely to debt repayment.

3. **The debt-to-GDP ratio can also be interpreted as the number of years it would take to pay back debt if GDP was used for repayment.** The higher the debt-to-GDP ratio, the less likely the country will pay back its debt and the higher its risk of default, which could cause a financial panic in the domestic and international markets.

NATIONAL BLOOD POLICY 2002

1. The Government has notified the Drugs and Cosmetics (Second Amendment) Rules, 2020 to support the National Blood Policy. The Drugs and Cosmetics (Second Amendment) Rules, 2020 pertain to functioning of Blood Banks, Blood processing and related matters. The National Blood Policy formulated by the government back in 2002.

2. **This Policy aims to ensure easily accessible and adequate supply of safe and quality blood and blood components.** These components may be collected / procured from a voluntary non-remunerated regular blood donor in well equipped premises, which is free from transfusion transmitted infections.

3. It also ensures that these components are stored and transported under optimum conditions. It will also ensure the transfusion under supervision of trained personnel for all who need it irrespective of their economic or social status through comprehensive, efficient and a total quality management approach.

ANIMAL HUSBANDRY INFRASTRUCTURE DEVELOPMENT FUND

1. Animal Husbandry Infrastructure Development Fund (AHIDF) is a Central Sector Scheme. So, no funds are released to the States. This Rs. 15000 crore AHIDF was set up under Atma Nirbhar Bharat Abhiyan stimulus package. This amount will be disbursed by the Scheduled banks.

2. **The AHIDF has been approved for incentivizing investments by individual entrepreneurs, private companies, MSME, Farmers Producers Organizations (FPOs) and Section 8 companies to establish Dairy processing and value addition infrastructure, Meat processing and value addition infrastructure and Animal Feed Plant.** Objectives of AHIDF - To help increase milk and meat processing capacity and product diversification to provide greater access for unorganized rural milk and meat producers to organized market. To make available increased price realization for the producer. To make available quality milk and meat products for the domestic consumer.

3. To fulfil the objective of protein enriched quality food requirement of the growing population of the country and prevent malnutrition in one of the highest malnourished children population in the world. Develop entrepreneurship and generate employment. To promote exports and increase the export contribution in the milk and meat sector. To make available quality concentrated animals feed to the cattle, buffalo, sheep, goat, pig and poultry to provide balanced ration at affordable prices.

4. Eligible beneficiaries - Farmer Producer Organization (FPO) Private companies Individual entrepreneurs Section 8 companies Micro Small and Medium Enterprises Loan - The eligible project under the AHIDF shall be eligible for loan up to 90% of the estimated/ actual project cost from the Scheduled Bank. The Government of India will provide 3% interest subvention to eligible beneficiaries.

5. Maximum Repayment Period is 8 years inclusive of moratorium of 2 years on principal amount. Credit Guarantee Fund - From the Credit Guarantee Fund, Credit guarantee would be provided to those sanctioned projects which are covered under MSME defined ceilings. Guarantee Coverage would be upto 25% of Credit facility of borrower. Implementation Agency - Department

The government banned the import of drones with immediate effect, except for research and development, defence and security purposes. The move aims to promote made in India drones, a statement from the Ministry of Civil Aviation.

of Animal Husbandry and Dairying, Ministry of Fisheries, Animal Husbandry & Dairying.