

According to the WHO, autism spectrum disorder affects one in 100 children. Children with ASD have impaired social interactions, lacked verbal and nonverbal communication skills, and display restricted and repetitive behaviours. The gut microbiome is believed to have a big impact on immune modulation and metabolic activities in the human body. Immune modulation refers, among other things, to the efforts of the immune system to ensure its response is proportionate to a threat. Investigations of the dynamic cross talk between the gut microbiome and the host environment have revealed potential connections to ASD symptoms. Reinstating a balance in the gut microbiome and reversing gut dysbiosis among children with ASD could alleviate many problems they face and improve their quality of life.

Researchers from the U.S. have proposed that billions of tonnes of dust can be launched from the moon to a point in space where the earth's and the Sun's gravitational fields cancel each other out. The dust will thus be 'parked' there, casting a shadow on earth and dimming sunlight to offset carbon emissions. Many climate models have confirmed that dimming the amount of incoming sunlight with stratospheric aerosols will lead to lower yield in crops, disease and starvation. Many natural as well as social scientists have expressed grave concerns about SRM science and governance.

India has emerged as the "first responder" to countries hit by natural disasters in "any part of the world", Prime Minister Narendra Modi said on Monday. Mr. Modi congratulated the 99-member self-contained Indian team that returned from quake hit Turkey where it operated a fully equipped Field Hospital in Iskenderun, Hatay and treated 4,000 patients. The country had also dispatched aircraft carrying relief material and medicines to Syria under the move officially named as "Operation Dost".

U.S. President Joe Biden on Monday made a trip to Kyiv organised in strict secrecy, promising \$500 million in fresh arms deliveries and "unwavering" American support ahead of the first anniversary of Russia's invasion. Air raid sirens rang out across the capital at one point as Mr. Biden walked alongside Ukrainian President Volodymyr Zelensky during what was the U.S. President's first visit to the country since Russian troops invaded on February 24, 2022.

6.542 number of guns intercepted by the Transportation Security Administration at airport checkpoints across the U.S. in 2022. The number — roughly 18 per day — was an all-time high for guns intercepted at U.S. airports, and is sparking concern. With the exception of the pandemic-disrupted 2020, the number of weapons intercepted at airport checkpoints has climbed every year since 2010.

33.5 million tonnes, the amount of sugar India is expected to produce in 2022-23, ending in September 2023, according to Mauro Virgino, head of trading

DEPARTMENT OF FISHERIES TO HOST SAGAR PARIKRAMA PHASE III PROGRAM FROM GUJARAT TO MAHARASHTRA

1. Sagar Parikrama program shall be celebrated in all coastal States/UTs. Sagar Parikrama Phase III is follow-up of Sagar Parikrama phase first (March, 2022) and second (September, 2022). India is 3rd largest fish producing and 2nd largest aquaculture nation in world after China. India is 4th largest exporter of fish in world.
2. Exports from India contribute 7.7% to global fish production. Fisheries sector has been recognized as 'Sunrise Sector'. Sector provides livelihood support to about 280 lakh people at primary level and almost twice the number along value chain.
3. **Initiatives to promote fisheries sector**-Blue Revolution focuses mainly on increasing fisheries production and productivity from aquaculture and fisheries resources, both inland and marine. Fisheries & Aquaculture Infrastructure Development Fund (FIDF), 2015. Pradhan Mantri Matsya Sampada Yojana (PMMSY), 2020. Kisan Credit Cards for Fishermen (2018-19).

ALL INDIA COUNCIL FOR TECHNICAL EDUCATION (AICTE) APPROVES TECHNICAL CURRICULUM TO BOOST SEMICONDUCTORS MANUFACTURING, DESIGN

1. AICTE has launched the curriculum designed for B. Tech Electronics VLSI Design & Technology and Diploma in Integrated Circuit (IC) manufacturing. It provides variety of employment roles and salary incentives for students. VLSI (Very Large-Scale Integration) sector is a high-paying industry and immune to automation and it will create an environment for Semiconductor ecosystem for setting and scaling up.
2. VLSI integrates hundreds of thousands of transistors on a single silicon semiconductor microchip. IC (also called chip or microchip) is a set of electronic circuits on one small flat piece (or chip) which acts as fundamental building block of all modern electronic devices. Semiconductor chips are materials that conduct electricity more than an insulator but less than a pure conductor.
3. They can be classified into small number of categories including memory chips, microprocessors, and Integrated chips. Taiwan, South Korea, and U.S. among others are major players of chip-making industry. Currently, global semiconductor industry is valued at \$500-\$600 billion. In India, demand would increase to \$70-\$80 billion by 2026. Challenges in making chips: Expensive process, need uninterrupted power supply and ultrapure water etc.
4. **Initiatives for semiconductor manufacturing**- India Semiconductor Mission Production linked incentive (PLI) scheme for semiconductor and display board production Fiscal support for design-linked initiative (DLI) Scheme.

GEOMAGNETIC STORM HITS EARTH

1. Recently, solar wind passed through a gap which occurred due to a crack in Earth's magnetic field sparking a G1-class geomagnetic storm (GMS). Crack occurred due to South-pointing magnetic fields weakening Earth's defences against solar wind. GMS is a disturbance in earth's magnetosphere, which is the area around planet controlled by its magnetic field. Earth's magnetosphere protects its inhabitants from most of the particles emitted by sun.
2. It is caused by massive exchange of energy from solar wind into space environment surrounding the Earth. GMS are categorised between G1 and G5, the latter being the strongest.
3. **Effect of GMS**- Formation of bright red auroras. Disrupt navigation systems such as Global Navigation Satellite System (GNSS) and create harmful geomagnetic induced currents (GICs) in power grid and pipelines. Damage satellite electronics and expose astronauts and high-altitude pilots to increased levels of radiation.
4. Red auroras occur when solar particles react with Oxygen at higher altitudes, generally above 150 miles. At this height, Oxygen is less concentrated and is "excited" at a higher frequency or wavelength than denser Oxygen lower down making reds visible.

HARYANA'S FIRST NUCLEAR POWER PLANT COMING UP IN GORAKHPUR VILLAGE

1. Upcoming Gorakhpur Haryana Anu Vidyut Pariyojana (GHAVP) will have two units of 700 MWe capacity each of Pressurised Heavy Water Reactor (PHWR). India's 3-stage nuclear energy program, envisioned by Homi Bhabha, is based on a closed nuclear fuel cycle.
2. **Stage-I**: PHWRs fuelled by Natural uranium would produce plutonium-239. Heavy water (D2O) is used as moderator and coolant in PHWR.

intelligence at Alvean. This is a drop from the original prediction of 34 to 34.3 million tonnes. The scaled down production estimates came after crops in top sugar producing States, Maharashtra, and Karnataka, saw falling sugarcane yields as the crops matured early.

\$ 200 million, Pakistan's current account deficit, according to its central bank. This is down by 90% from last year as the rupee's depreciation slowed down imports. In less than a month, the nation's currency has lost more than a quarter of its value against the U.S. dollar. Fuel prices have risen by more than a fifth as the government implemented fiscal measures required to unlocking funds from an IMF bailout.

₹996 crore, the amount raised by State-owned hydro power giant National Hydroelectric Power Corporation Ltd. (NHPC) through unsecured, redeemable, non-convertible, non-cumulative and taxable 7.59% AD series bonds on private placement basis, according to a filing. The bonds are proposed for listing in the Wholesale Debt Market (WDM) segment of BSE and the National Stock Exchange (NSE).

6.85 percentage, the retail inflation for farm workers. The retail inflation rose to 6.88% for rural workers in January, due to higher prices of certain food items, according to the Labour Ministry. The inflation readings for farm and rural workers stood at 6.38% and 6.60%, respectively, in December 2022 while in January 2022, the inflation numbers were at 5.49% and 5.74% respectively.

On a breach of privilege notice moved by a few members against 12 Opposition MPs for "disorderly conduct" which forced multiple adjournments, Rajya Sabha Chairman Jagdeep Dhankhar on Monday directed the Privileges Committee of the Upper House to investigate the complaints and submit a report.

India and Italy are expected to put nearly a decade of tensions over the arrest of Italian marines and other issues firmly behind them with discussions about a bilateral defence cooperation that is likely to be announced during Italian Prime Minister Georgia Meloni's visit to India.

3. **Stage-II:** Fast Breeder Reactors utilising plutonium- 239 fuel from first stage and formed uranium-238.
4. **Stage-III:** Advanced nuclear power systems for utilisation of thorium. India successfully reached the first stage in 2013 with over 22 nuclear reactors (18 PHWRs, and 4 Light Water Reactors) in 7 nuclear power plants.
5. India is currently on second stage of program. India's current nuclear power capacity of 6,780 MW is expected to increase to 22,480 MW by 2031. Nuclear energy is fifth-largest source of electricity for India.
6. Steps taken to increase nuclear power output-Atomic Energy Amendment Act 2015 allow public-sector companies to form joint ventures to build nuclear power plants. Resolution of issues relating to Civil Liability for Nuclear Damage (CLND) Act 2010 and establishment of an Indian Nuclear Insurance Pool.

EXTRA MEASURES ADOPTED TO CHECK IRREGULARITIES IN ORGANIC FARMING CERTIFICATION: MINISTRY OF COMMERCE (MOC)

1. MoC has begun adopting additional onsite measures to check field-level irregularities including verification of organisations that certify organic farming. Certification of Organic Foods assures that they comply with set standards laid out. Organic foods are certified under National Programme for Organic Production (NPOP) or Participatory Guarantee System for India (PGS-India).
2. NPOP, launched under APEDA, MoC, involves accreditation of Certification Bodies, promotion of organic farming and marketing etc. NPOP standards have been recognized by European Commission and Switzerland for unprocessed plant products.
3. **PGS- India**, launched under Ministry of Agriculture, is based on NPOP standards but is distinct in its certification procedure. PGS is for domestic use only. Organic farming uses organic fertilizers (vermicompost, cow dung manure, etc) and farming methods that result in sustainable production of crops without affecting quality of production. Whereas, in natural farming, neither chemical nor organic fertilizers are added to soil. In fact, no external fertilizers are added to soil.
4. **Advantages of organic farming:** Maintain environment health by reducing pollution; reduces crop failure risk; reduces input cost leading to high profits; increases export potential etc. Disadvantages of organic farming: Labour intensive; strict certification procedure inhibits farmers; requires specialised infrastructure etc.
5. In related development, Centre has announced that it would set up a high quality modern organic testing lab in Sikkim to promote organic produce of State. Sikkim is India's first fully organic state. India ranks first in terms of number of Organic producers.

SHINKU LA TUNNEL

1. Construction of 4.1-km Shinkun La tunnel on Nimu-Padam-Darcha Road link has been approved. Shinku-la pass connects Himachal Pradesh's Lahaul valley and Ladakh's Zaskar valley. It will be built by Border Road Organisation (BRO) under its ambitious Project Yojak.
2. Project aims to build more tunnels like Atal Tunnel and maintain the connecting roads. It will provide all-weather road connectivity to Ladakh and this will be the shortest route to border areas of Union territory from other parts of country. It will bring swiftness in movement of security forces.



"Most of the advice you received was good to be passed on, you too can do the same."

DR. KHAN
(KSG)