UPSC CURRENT AFFAIRS NOTES 16-12-2023

FIRST ENTITY TO LIST ON SOCIAL STOCK EXCHANGE

Unnati Foundation, a not-for-profit organization (NPO) dedicated to empowering underprivileged youth through skill training and employment placement, has made history as the first entity to list on the National Stock Exchange's Social Stock Exchange (SSE) in India.

Impact on Unnati Foundation (SUF)

Fundraising for Social Impact

Through the issuance of Zero Coupon Zero Principal (ZCZP) instruments, SUF raised ₹1.8 crore. This funding will be directed toward training 10,000 underprivileged youths across states, aiming to facilitate their employment.

This method of fundraising bypasses traditional grants and donations, presenting a sustainable and scalable approach to financing social initiatives.

Enhanced Credibility and Transparency

Listing on the SSE provides SUF with a platform to showcase financial and social accountability.

Transparency in fund utilization and reporting builds trust among potential donors and investors, potentially attracting more substantial and longer-term funding.

Impact Measurement and Reporting

SSE's requirement for annual impact reports, audited by social audit firms, ensures that SUF's social impact is measured and documented.

This data-driven approach allows stakeholders to track the effectiveness of their contributions, holding SUF accountable for its social mission.

Social Stock Exchange (SSE)

The Social Stock Exchange (SSE) is a specialized platform within a larger stock exchange that allows social enterprises and non-profit organizations (NPOs) to raise capital through the issuance of Zero Coupon Zero Principal (ZCZP) instruments.

Unlike traditional stock exchanges where companies issue shares or debt to raise capital, ZCZPs are non-tradable instruments with a face value of ₹1 each.

Donors receive these ZCZPs in their demat accounts as a symbolic representation of their contribution to the NPO's social cause.

NPOs that meet the SSE's eligibility criteria can list their ZCZP offerings on the platform. Investors can then purchase these ZCZPs through their demat accounts.

The funds raised are used by the NPO to implement its social projects. At the end of the project period, the ZCZPs expire and hold no monetary value. However, donors have the satisfaction of knowing that their contribution has helped make a positive social impact.

<u>Benefits of the SSE for NPOs</u>

Access to capital: The SSE provides NPOs with a new and innovative way to raise capital, which can be difficult for them through traditional means.

Enhanced credibility and transparency: Listing on the SSE requires NPOs to meet certain disclosure and reporting standards, which can help to build trust with investors and the public.

Increased visibility and reach: The SSE platform helps to raise awareness of NPOs and their work, which can lead to increased donations and support.

Improved impact measurement and reporting: The SSE framework encourages NPOs to track and measure their social impact, which can help them improve their programs and demonstrate their effectiveness to donors.

Benefits of the SSE for investors

Invest in social impact: The SSE allows investors to invest in causes they care about and make a positive social impact.

Diversification: ZCZPs can be a good way to diversify an investment portfolio.

Tax benefits: In some cases, donations made through the SSE may be eligible for tax deductions.

Challenges of the SSE

Limited awareness: The SSE is still a relatively new concept, and many investors and NPOs are not yet aware of it.

Liquidity: ZCZPs are not tradable, which means that investors cannot easily sell them before they expire.

Standardization: There is a need for more standardized reporting and impact measurement frameworks for NPOs listed on the SSE.

NOROVIRUS

Norovirus cases have been on the rise in the UK in recent weeks, with numbers being 60% higher than the same time last year.

About Norovirus

Norovirus is a highly contagious virus notorious for causing gastroenteritis, resulting in symptoms like vomiting, diarrhoea, abdominal cramps, nausea, muscle aches, headache, fever, and sometimes chills.

It is commonly referred to as the "stomach flu" or "winter vomiting bug," but it is important to note that norovirus is distinct from influenza and specifically causes gastrointestinal issues.

Nature of Norovirus

Norovirus exists in numerous strains, and individuals can experience multiple infections in their lifetime due to the diversity of these strains.

It's highly contagious and easily transmitted from person to person, primarily through:

Contaminated Surfaces: The virus can persist on surfaces like doorknobs, countertops, or objects touched by an infected person. Contact with these surfaces and subsequent hand-to-mouth actions can lead to infection.

Contaminated Food and Water: Norovirus can contaminate food and water during preparation or handling by an infected individual, leading to widespread outbreaks if consumed by others.

Symptoms of Norovirus Infection

The typical onset of symptoms occurs within one to two days after exposure to the virus.

Gastrointestinal Distress: Vomiting and diarrhoea are hallmark symptoms. These can be severe, leading to dehydration due to the loss of fluids.

Nausea, Abdominal Pain, and Fever: Patients often experience nausea, cramping abdominal pain, accompanied by a fever, headaches, and body aches.

Transmission Routes

Person-to-Person Contact: Close contact with infected individuals, especially through exposure to their vomit or stool, is a primary transmission route.

Contaminated Surfaces and Objects: The virus can persist on surfaces and objects for an extended period, making transmission possible through touching contaminated surfaces and then touching the face or consuming contaminated food without proper hand hygiene.

Contaminated Food and Water: Consumption of food or water contaminated during preparation or handling by an infected person can result in infection.

Aerosolized Vomit or Stool: Even the air around an area contaminated with vomit or stool can potentially spread the virus.

Treatment

There is no specific antiviral treatment for norovirus.

There is no currently available vaccine for norovirus.

Resting, managing symptoms, and ensuring adequate hydration to prevent dehydration are the primary focus.

Individuals are advised to avoid certain foods and activities until they recover. Severe cases might necessitate hospitalization for intravenous fluids to prevent dehydration.

Prevention

Frequent handwashing with soap and water is paramount in preventing infection.

Thoroughly cleaning and disinfecting surfaces, especially in areas where infected individuals have been present.

Ensuring proper cooking of food, particularly shellfish, and careful washing of fruits and vegetables before consumption.

Limiting contact with sick individuals helps minimize transmission.

Complications

Norovirus infections are typically short-lived and resolve within a few days. However, for vulnerable populations such as young children, the elderly, and immunocompromised individuals, there's a higher risk of dehydration and complications, making the illness potentially more severe.

AUTONOMOUS FLYING WING TECHNOLOGY DEMONSTRATOR

The successful flight trial of the Autonomous Flying Wing Technology Demonstrator by the Defence Research and Development Organisation (DRDO) is a momentous achievement in India's aeronautical advancement.

Technology Mastery: The flight trial marks India's entry into an exclusive league of nations capable of maneuvering flying wing technology in a tailless

configuration, demonstrating exceptional control and proficiency in this specialized field.

Development Origins: The UAV was conceived and crafted by DRDO's Aeronautical Development Establishment. The journey began with its maiden flight in July 2022, followed by a series of six meticulously planned flight trials.

Design and Material Excellence: The aircraft's construction utilized lightweight carbon prepreg composite material, a remarkable display of India's indigenous expertise in aerospace technology.

Autonomous Features: The UAV demonstrated autonomous landing capabilities without relying on ground radars, infrastructure, or human pilots. Its unique ability to take off and land from runways with pinpoint accuracy was facilitated by sensor data fusion and GPS Aided GEO Augmented Navigation (GAGAN) receivers, ensuring precise navigation.

Technological Sovereignty: India's adeptness in developing cutting-edge technology like the Autonomous Flying Wing UAV signifies a significant leap towards self-sufficiency and technological sovereignty in the realm of advanced aerospace technology.

About Flying-wing UAVs

They represent a unique and advanced category of unmanned aircraft characterized by their distinct wing design, which merges the body of the aircraft into a single, wing-shaped structure, without any separate tail or fuselage.

These UAVs are engineered to provide a myriad of applications across various fields due to their innovative design and versatile capabilities.

Design and Features:

Wing Configuration: The most prominent feature of a flying-wing UAV is its wing configuration, which is the primary structure and contributes to both lift and stability.

Stealth and Low Radar Signature: The design of flying-wing UAVs often aims for reduced radar cross-section, providing stealth characteristics that make them less detectable by radar systems.

Payload Capacity: These UAVs can accommodate various payload configurations, including sensors, cameras, communication devices, and sometimes even weapons, depending on the intended purpose.

Long-Endurance Flight: Due to their efficient aerodynamics, flying-wing UAVs can achieve extended flight times and long endurance, making them suitable for surveillance, reconnaissance, and monitoring missions.

Control Systems: Advanced control systems and fly-by-wire technology ensure stability and precise control, enabling autonomous or remotely piloted flights.

Applications:

Surveillance and Reconnaissance: Flying-wing UAVs excel in intelligence gathering, surveillance, and reconnaissance missions. Their stealthy design and endurance capabilities make them suitable for long-duration aerial surveillance tasks.

Military Operations: They have applications in military scenarios for reconnaissance, target acquisition, and potential deployment as combat drones.

Civilian Uses: In civilian domains, they find use in environmental monitoring, disaster management, agriculture, and infrastructure inspection.

Communications Relay: Some variants serve as high-altitude communications relays for extending network coverage or supporting communication in remote areas.

Research and Development: Flying-wing UAVs are also employed in research and development for advancing aerospace technology and testing new aerodynamic designs.

Barracuda Boat

In a move towards eco-friendly maritime transportation, the Barracuda, India's fastest solar-electric boat, was ceremoniously launched at the Navgathi Panavally Yard in Alappuzha.

About Barracuda Boat:

It is named after the swift, long fish, Barracuda.

It can be deployed even in the rough seas as a workboat to ferry up to 12 passengers and cargo.

Features: This vessel can attain a top speed of 12.5 knots (23 kmph) and has a range of seven hours on a single charge.

It has twin 50 kW electric motors, a marine-grade LFP battery, and 6 kW solar power, epitomising efficient and clean energy usage.

This cutting-edge vessel was jointly developed by Mazagon Dock Shipbuilders and Navalt.

Key facts about Barracuda fish:

It is any of about 20 species of predacious fishes of the family Sphyraenidae.

Barracudas are primarily fish eaters, preying on such smaller fishes as mullets, anchovies, and grunts.

Distribution: These fishes are found in all warm and tropical regions; some also range into more temperate areas.

Marginal Cost of Funds based Lending Rate (MCLR)

State Bank of India (SBI) recently raised its marginal cost of funds-based lending rate (MCLR) by up to 10 basis points for selected tenures.

About the Marginal Cost of Funds based Lending Rate (MCLR):

- MCLR is the minimum lending rate below which a bank is not permitted to lend.
- It is aimed at facilitating the calculation of the minimal interest rate for various types of loans that banks offer.
- The Reserve Bank of India (RBI) introduced the MCLR methodology for fixing interest rates on April 1, 2016, in order to enhance the effectiveness of monetary policy transmission as well as increase transparency in the rate of interest setting procedure.
- It replaced the base rate structure, which had been in place since July 2010.
- **How is MCLR calculated?**

MCLR is determined internally by the bank depending on the period left for the repayment of a loan.

MCLR is closely linked to the actual deposit rates and is calculated based on four components:

  - the marginal cost of funds
  - negative carry-on account of cash reserve ratio
  - operating costs
  - tenor premium.

- Under the MCLR regime, banks are free to offer all categories of loans at fixed or floating interest rates.

- The actual lending rates for loans of different categories and tenors are determined by adding the components of spread to MCLR.
- Therefore, the bank cannot lend at a rate lower than the MCLR of a particular maturity for all loans linked to that benchmark.
- Banks review and publish MCLRs of different maturities, every month.
- Certain loan rates, like those of fixed-rate loans with tenors above three years and special loan schemes offered by the government, are not linked to MCLR.

What is the difference between MCLR and Base rate?

- MCLR is an advanced version of the base rate.
- The **base rate is** the **minimum rate of interest set by the RBI**; no financial institution can lend at an interest rate below the base rate.
- MCLR is an internal benchmarking system applied by a financial institution, under which they can set their own lending rates considering a spread factor.
- The base rate is based on the average cost of funds, but the MCLR is based on the marginal or incremental cost of money.
- The base rate does not get impacted by the revision of RBI's repo rate, while MCLR gets impacted as and when RBI revises the repo rate.
- Usually, the minimum rate of return or profit margin is taken into consideration while deriving the base rate. While determining the MCLR, the tenor premium is taken into consideration.

The GPAI New Delhi Declaration on AI: How it Found Middle Path Between Promotion and Regulation of AI

The Global Partnership on Artificial Intelligence (GPAI) Summit 2023 (New Delhi) has unanimously adopted the New Delhi declaration, attempting to find a balance between innovation and the risks associated with AI systems.

The declaration stands out as a contrast from the agreement signed at the United Kingdom AI Safety Summit, where countries had committed to first tackle the risks emanating from AI systems.

Highlights of the GPAI New Delhi Declaration on AI

How does the New Delhi Declaration Contrast with the Bletchley Declaration?

India's Position on the Regulation of AI

What led to the Change in India's Position on Regulating AI?

Highlights of the GPAI New Delhi Declaration on AI:

The declaration underscored -

The need to mitigate risks arising from the development and deployment of AI systems and Promote equitable access to critical resources for AI innovation, including computing and high-quality diverse datasets.

It has attempted to find a balance between innovation and the risks associated with AI systems.

The declaration recognises the rapid pace of improvement in advanced AI systems and their potential to generate economic growth, innovation and jobs across various sectors as well as to benefit societies.

While it is generally optimistic about the economic gains that AI can offer, it also raises concerns about justice, privacy, and intellectual property rights that must be addressed.

The declaration said that a global framework for use of AI should be rooted in

- Democratic values and human rights;
- Safeguarding dignity and well-being;
- Ensuring personal data protection;
- The protection of applicable intellectual property rights,
- Privacy and security;
- Fostering innovation; and

Promoting trustworthy, responsible, sustainable and human-centred use of AI.

The declaration also agreed to support AI innovation in the agriculture sector as a new "thematic priority".

It said that the GPAI will pursue a diverse membership, with a particular focus on low- and middle-income countries to

Ensure a broad range of expertise,

National and regional views, and

Experiences based on shared values.

How does the New Delhi Declaration Contrast with the Bletchley Declaration?

The GPAI New Delhi declaration:

The essence of the declaration: AI is inherently good and is a catalyst for economic growth, but some harms need to be mitigated along the way.

Thus, it addresses the need to tackle AI-related risks, at the same time it largely supports innovation in the technology in various sectors, including agriculture and healthcare.

The UK AI Safety Summit declaration:

It puts security and safety risks related to AI in the centre of the discussions and says that global action is needed to tackle the potential risks of AI.

It noted the potential for catastrophic harm (deliberate or unintentional) stemming from the most significant capabilities of these AI models, as well as risks beyond frontier AI.

“Frontier AI” is defined as highly capable foundation generative AI models that could possess dangerous capabilities that can pose severe risks to public safety.

India’s Position on the Regulation of AI:

Even as India looks to unlock the potential economic benefits of AI systems, its own thinking on AI regulation has undergone a significant change -

From not considering any legal intervention on regulating AI in the country (few months ago),

Now moving in the direction of actively formulating regulations based on a “risk-based, user-harm” approach.

At the GPAI Summit 2023, the Indian PM flagged the dual potential of AI -

While it can be 21st century’s biggest development tool,

It can also potentially play a very destructive role and call for a global framework that will provide guardrails and ensure its responsible use.

What led to the Change in India's Position on Regulating AI?

After deepfakes of a number of popular personalities got mainstream traction, the IT Ministry began to talk of a concrete legislative step to tackle AI-based misinformation.

Part of this shift was also reflected in a new consultation paper floated by the telecommunications regulator Telecom Regulatory Authority of India (TRAI).

It said that the Centre should set up a domestic statutory authority to regulate AI in India through the lens of a "risk-based framework".

The paper had also called for collaborations with international agencies and governments of other countries to form a global agency for the "responsible use" of AI.