



## SC stays Lokpal order on power over judges

### POLITY & GOVERNANCES



The Supreme Court on Thursday stayed a Lokpal order bringing High Court judges under its jurisdiction, terming the top anti-corruption ombudsman's interpretation "very disturbing". Taking suo motu cognisance of the January 27 Lokpal order, a Special Bench of Justices B.R. Gavai, Surya Kant and A.S. Oka, three senior judges of the Supreme Court and Collegium members, said it impacted the independence of the judiciary.

The Bench, in a brief hearing, was offered assistance by senior advocates Kapil Sibal and B.H. Marlappalle even as Solicitor-General Tushar Mehta appeared for the Union government. The Bench issued notice to the Centre, the Registrar of Lokpal and the complainant on whose plea the January

27 order was passed. The court listed the case on March 18. It injuncted the complainant from disclosing the name of the High Court judge in question and ordered the former to keep the contents of the complaint confidential.

#### About Lokpal:

- It is a statutory body established under the Lokpal and Lokayuktas Act 2013.
- Mandate: To inquire into allegations of corruption against certain public functionaries and for related matters.
- **Organisational Structure:**
  - It consists of a chair person and eight Members, out of whom four are Judicial Members.
  - The Chairperson should be either the former Chief Justice of India, or a former Judge of the Supreme Court, or an eminent person who fulfills the eligibility criteria as specified.
  - The judicial member of the Lokpal should be either a former Judge of the Supreme Court or a former Chief Justice of a High Court.
  - A minimum of fifty percent of the Members will be from SC/ST/OBC/Minorities and women.
- **How are members appointed?**
  - The Chairperson and the Members are appointed by the President of India on the recommendation of a selection committee composed of the Prime Minister as the Chairperson, the Speaker of Lok Sabha, the Leader of Opposition in Lok Sabha, the Chief Justice of India or a Judge nominated by him/her, and one eminent jurist.
  - They hold office for a term of five years from the date on which they enter upon the office or until they attain the age of 70 years, whichever is earlier.
  - The salary, allowances, and other conditions of services of the Chairperson are the same as that of the Chief Justice of India.
  - The salary, allowances, and other conditions of services of the members are the same as that of a Judge of the Supreme Court.
- **Jurisdiction:**
  - It has jurisdiction to inquire into allegations of corruption against anyone who is or has been Prime Minister, a Minister in the Union government, or a Member of Parliament, as well as officials of the Union Government under Groups A, B, C, and D.
  - It covers chairpersons, members, officers, and directors of any board, corporation, society, trust, or autonomous body either established by an Act of Parliament or wholly or partly funded by the Union or State government.
  - It also covers any society, trust, or body that receives a foreign contribution above Rs 10 lakh.

# Microsoft unveils chip for quantum computing

## SCIENCE AND TECHNOLOGY

Microsoft has announced a new chip, called Majorana 1, that it said showed quantum computing is “years, not decades” away, joining Google and IBM in predicting that a fundamental change in computing technology is closer than believed. Quantum computing holds the promise of carrying out calculations that would take today’s systems millions of years and could unlock important discoveries in medicine, chemistry, and aerospace, among others.

The biggest challenge of quantum computing is that its fundamental building block — called a qubit — is fast but difficult to control and is prone to errors. Microsoft said its new Majorana 1 chip is less prone to these errors than rival designs.

### About Quantum Computing

Quantum computing is an area of computer science that uses the principles of quantum theory at the atomic and subatomic levels. It uses subatomic particles, such as electrons or photons. Classical computers, which include smartphones and laptops, encode information in binary “bits” that can either be 0s or 1s. In a quantum computer, the basic unit of memory is a quantum bit or qubit. Quantum bits, or qubits, allow the subatomic particles to exist in more than one state at the same time.

Theoretically, linked qubits can exploit the superposition, entanglement and interference between their wave-like quantum states to perform calculations that might otherwise take millions of years.

### Quantum Computing Applications

Quantum Computing has a myriad of applications in various walks of life such as secure communication, optimising industrial processes, complex chemical simulation etc.

- **Drug Designing:** QCs overcome the limitations of existing computational methods to know the behaviour of particles. It could employ entanglement and superposition to leverage and handle all the possible permutations of molecular behaviour of drugs efficiently.
  - For example: Pharma research outfits such as SRI International, and AstraZeneca explore QC’s potential in modeling protein.
- **Artificial Intelligence and Machine Learning:** Quantum computers have the potential to accelerate or improve machine learning relative to classical performance. It harnesses statistical distribution to tackle machine-learning problems efficiently.
  - For example: IBM came up with a promising machine-learning classification algorithm- a quantum-classical hybrid.
- **Optimisation:** Quantum computing can improve research and development, production processes, and supply-chain optimization.
  - For example- quantum computing decreases manufacturing process–related costs and also reduces cycle times by optimizing elements such as path planning in complex processes.
- **Financial sector:** quantum optimization of loan portfolios so that lenders can make better decisions, free up capital, lower interest rates, and improve their offerings.

### Quantum Computing in India

India is gearing up to accelerate indigenous efforts around the development of quantum computing:

- **Budget 2023:** Rs 6000 crore (USD 800 million) allocated towards a National Mission on Quantum Computing and Technology spanning 5 years.
- **TCS National Qualifier Test 2023:** Conducted a first-of-its-kind online test to identify talent for building quantum computing skills and knowledge across India’s universities.
- **MeitY Initiatives:** Launched Quantum Computing Applications Lab on AWS Cloud focused on developing tools and methods to leverage quantum for critical national applications.
- **Indian Institute of Science:** Establishing a dedicated Quantum Technologies and Application Centre to conduct research around NISQ computing software and hybrid quantum-classical algorithms.
- **Indian Institute of Technology Madras:** Undertaking fundamental R&D across quantum cryptography, communication, sensing, and networks while also establishing the Centre for Quantum Information, Communication and Computing.

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## Tamil Nadu CM seeks Modi's intervention in releasing Samagra Shiksha funds

### EDUCATION

Tamil Nadu Chief Minister M.K. Stalin on Thursday sought the intervention of Prime Minister Narendra Modi in releasing the funds due to Tamil Nadu under the Samagra Shiksha scheme. Reiterating the State's position on the two-language policy, he wanted the funds released "without linking" it to the implementation of the National Education Policy (NEP) 2020.

Linking the two Centrally sponsored schemes — Samagra Shiksha and the NEP exemplar PM SHRI schools — was "fundamentally unacceptable", Mr. Stalin said, adding that the Union government using the release of funds as a "pressure tactic to coerce a State" into adopting Centrally mandated programmes against its own time-tested State policies was a "blatant violation of cooperative federalism".

#### About Samagra Shiksha Scheme:

It is an integrated scheme for school education covering the entire gamut from pre-school to class XII.

It aims to deliver inclusive, equitable, and affordable school education.

It subsumes the three Schemes of Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and



Teacher Education (TE).

The scheme covers 1.16 million schools, over 156 million students and 5.7 million Teachers of Govt. and Aided schools (from pre-primary to senior secondary level).

It is being implemented as a centrally sponsored scheme. It involves a 60:40 split in funding between the Centre and most States. It was launched by the Ministry of Education in 2018.

## 360 One AMC opens new fund offer for gold ETF

### ECONOMY

360 One Asset Management Company (AMC) said it had opened a new fund offer (NFO) for its gold exchange traded fund (ETF). The NFO will remain open from February 20 to February 28, the company said in a statement. The minimum application amount is ₹500 and one gold ETF unit is priced at ₹10. At least 95% of the gold ETF will be invested in gold or gold-related instruments and the remaining in debt or money market securities. The fund will be passively managed and will replicate domestic gold prices.

#### About Asset Management Company

An AMC is a financial institution that pools funds from multiple investors and invests in various financial instruments, such as stocks, bonds, and real estate, to generate returns for the investors in exchange for a fee. AMCs are commonly referred to as money managers or money management firms.

#### Functions of AMC

- The role of an AMC is to make investment decisions on its investors' behalf and manage the assets in their portfolios. This involves choosing a suitable mix of investments and helping investors grow their money.
- To achieve this, an asset management company appoints professionally qualified fund managers with investment expertise and experience to manage the assets.
- Fund managers employ investment strategies and use financial tools, such as risk management techniques, to help manage the portfolio and protect investors' assets.
- Additionally, AMCs have a support system in place in the form of research analysts who assist the fund managers.
- The distinguishing factor for AMCs is their assets under management (AUM). It indicates the total value of investments that the AMC manages on investors' behalf.
- When the AUM of an AMC grows, it represents the faith and confidence that investors have in the AMC to manage their money.
- SEBI is the Indian Capital Market Regulator which governs and controls every AMC in India.

### About ETFs:

An exchange-traded fund (ETF) is a collection of marketable securities that track an underlying index. ETFs combine features of mutual funds and stocks, allowing investors to gain exposure to a basket of assets while providing the flexibility to be traded on stock exchanges like individual stocks.

- **Diversification:** ETFs provide diversification by allowing investors to gain exposure to a basket of assets with a single investment.
- ETFs can be bought and sold throughout the trading day on stock exchanges at market prices, unlike mutual funds which are priced only at the end of the trading day.
- **Affordable:** ETFs typically have lower fees and expenses compared to actively managed mutual funds, as they are passively managed to track an index.
- The largest ETFs track major stock market indexes like the S&P 500, providing investors with broad exposure to the overall stock market.

## The quest to rescue nearly extinct northern white rhino through IVF

### ECOLOGY

Two rhinos munch serenely on grass as the sun rises over Mount Kenya, oblivious to the massive global endeavour to prevent them from being the last of their kind.

A year ago scientists announced a breakthrough: a surrogate was pregnant with a male southern white foetus, the first time IVF had worked for rhinos. But like so much about this long and difficult process, the joy was “mixed with sadness”, OI Pejeta head of research Samuel Mutisya said.



What are the Key Facts Regarding the Northern White Rhino?

#### About:

The NWR is a subspecies of the white rhino (*Ceratotherium simum*), which is native to central and eastern Africa.

White rhinos are the second largest land mammal after the elephant. They are known as the square-lipped rhinoceros, white rhinos have a square upper lip with almost no hair.

The northern and southern white rhino are two genetically distinct subspecies of the white rhino.

#### Current Status:

- The IUCN Red List Status of White Rhino is Near Threatened. The IUCN status of its subspecies is as follows:
- Northern White Rhino: Critically Endangered.
- Southern White Rhino: Near Threatened.
- The NWR population has declined dramatically due to poaching, habitat loss, civil war, and disease.
- In the 1960s, there were about 2,000 NWRs in the wild. By 2008, only four remained.
- The last male NWR, named Sudan, died in 2018, leaving only two females, Najin and Fatu, who live in a conservancy in Kenya.
- The majority (98.8%) of the southern white rhinos occur in just four countries: South Africa, Namibia, Zimbabwe, and Kenya.
- Southern white rhinos are around 18,000 animals that exist in protected areas and private game reserves.



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## Centre plans to lease over 10 airports under PPP mode, begins consultations

ECONOMY

The Centre has begun consultations on leasing (privatise) over 10 airports under the public-private partnership (PPP) model, sources told businessline. According to the sources, an inter-ministerial consultation process was initiated recently with the circulation of a Cabinet note seeking opinion from different ministries.

### Public-Private Partnership Model

PPP is an arrangement between government and private sector for the provision of public assets and/or public services. Public-private partnerships allow large-scale government projects, such as roads, bridges, or hospitals, to be completed with private funding. In this type of partnership, investments are undertaken by the private sector entity, for a specified period of time. These partnerships work well when private sector technology and innovation combine with public sector incentives to complete work on time and within budget. As PPP involves full retention of responsibility by the government for providing the services, it doesn't amount to privatization. There is a well defined allocation of risk between the private sector and the public entity. Private entity is chosen on the basis of open competitive bidding and receives



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