YOJANA SUMMARY

FINTECH

APRIL 2022

FINTECH BEYOND BOUNDARIES

Spectacular Emergence Of Fintech Ecosystem In India

- India is one of the largest and fastest-growing markets in the world with more than 2100 fintechs.
- It has the **third largest fintech ecosystem** in line after the US and China.
- As of December 2021, India has over **17 fintech companies which have gained Unicorn status** with a valuation of over USD 1 billion.

India Stack: Leveraged By Fintech

- The government has demonstrated a unique model of public-private partnership by building a strong infrastructure in India stack.
- The **India stack is based on a four-pronged approach**.
  - ✓ **Biometric identity** in the form of Aadhar for identification;
  - ✓ **Building financial inclusion** by getting everyone a bank account through Pradhan Mantri Jan Dhan Yojana (PMJDY);
  - ✓ Building scalable platform(s) to transfer money via IMPS, UPI
  - ✓ Allowing banks and fintechs also to access platforms like UPI, goods and Services Tax Network (GSTN) & Digilocker to innovate.

Way forward: Digital Public Goods

- We need to move beyond fragmented digital solutions to digital infrastructures that will spur digitalization across economies and societies.
- **Digital Public Infrastructure** (DPI) solutions can improve the lives of people around the world by enabling digital inclusion.
  - ✓ Digital public goods are generally the open-source software, open data, open AI models, open standards, etc., anyone anywhere, can contribute to it and use them.
  - ✓ They are proving to be a critical tool for building infrastructure in ways that address some of the limitations of solutions that rely on proprietary software and reused.
  - ✓ E.g., **CoWIN portal** developed by India is an example of digital public good.
  - ✓ Another notable one is the **Open Network for digital Commerce** (ONDC) which is expected to revolutionise the way the E-commerce industry is operating currently.
- DPI must be inclusive, protect the privacy and security of citizens, and be governed by regulatory frameworks.
- Building **meaningful Public-Private Partnership** is going to be instrumental in development good DPI. E.g., the digital payment ecosystem grew in India after UPI were put in place.
- India can **collaborate with other nations** on how digital identity can be built for other countries by using the digital architecture and systems in India.
- Also, India **may collaborate with international organizations** in building **standards for international identity** so that digital identity is available across the world.
- The idea of a **global stack was introduced by IMF** called *Bali Fintech Agenda in 2018*.
- The concept of Global Stack has the potential to take the agenda of "Fintech Beyond Boundaries" forward and upwards.

Conclusion

- There are still more than 1.7 billion adults in the world without access to financial services. We need greater international cooperation to achieve that and to make sure the fintech revolution benefits many and not just few.
- The concept of global stack shall provide a useful framework for countries to assess their policy options in adapting and building a foundation for digital economy suiting their own circumstances and priorities.

ACCELERATING SOCIO-ECONOMIC DEVELOPMENT

- With the increasing population, the impact of climate change, and competing demand for water from various sectors in a fast-developing economy, many regions face water stress.
- Therefore, the overall goal of the government is to ensure that water does not become a limiting factor in India's rapid socio-economic development.

Jal Jeevan Mission (JJM)

- On 15 august 2019, Prime minister, in his Independence Day address to the nation, announced '**Jal Jeevan Mission (JJM) – Har Ghar Jal'**, to make provision of tap water connection to every rural home and public institution by 2024.
- The focus of this mission is on assured and regular potable water service delivery at household level, i.e., water supply in adequate quantity (55 litres per person per day).

Water Situation In India

- In august 2019, out of total 18.70 crore rural households, only **3.23 crore (17 %) households were having provision of tap water supply**.
- As on date, there are over 19.32 crore rural households across 21 different climatic conditions in the country. In India, condition vary from cold desert to hot desert, each such region has its own unique challenges. Adding to this challenge is the fluctuation in rainfall patterns.
- India has the **highest ground water consumption in the world**. As per the central ground water board report, 2017, about 50% of ground water sources either have quality or quantity issues.
- It is projected that **water demand will be twice its availability by 2030**. The per capita annual freshwater availability is likely to decline to 1,293 cu.m by 2050, which is very close to water scarcity line.

JJM Faces A Unique Challenge

- To ensure clean tap water supply to the remaining 83% of rural households, as well as new households on a long-term basis, water supply infrastructure is to be created by providing functional household tap connections within 5 years along with upgrading existing water supply system to make them JJM complaint is huge challenge.
- This also means that drinking water sources have to be strengthened and greywater has to be treated and reused.

Community at the Centre

- To ensure long-term assured service delivery to every home and executing the work in a time-bound manner with transparency, involving the **village community** is the key.

- The gram panchayat or its sub-committee i.e., **village water and sanitation committee (VWSC)/Pani Samiti**, etc., are to shoulder key responsibility in planning, implementation, management, operation, and maintenance of in-village water supply system.
- This committee is empowered under the Panchayat Raj Act so that they are able to shoulder the assigned responsibility.
- A 5-year village action plan co-terminus with the 15th Finance Commission period (2021-22 to 2025-26) is being prepared through the participation of the local community.
- This plan focuses on four key components:
  - ✓ augmentation and strengthening of local drinking water sources,
  - ✓ in village water supply infrastructure to make provision of tap water supply to every home and public institution,
  - ✓ greywater collection, treatment, and reuse;
  - ✓ regular operations and Maintenance.
- JJM is a decentralized, demand-driven, and community-managed programme that **aims to instil a 'sense of ownership' among the local community**.

Role of Panchayat in Creating Water Secure Villages

- The panchayat has a constitutional mandate to manage the drinking water supply in villages.
- Under JJM, **communities will contribute 5% of the capital cost** in the form of cash and/or kind and/or labor in hilly and forested areas, and 10% in other villages. This is to promote **ownership among village communities** for in-village piped water supply infrastructure.
- After the commissioning of the scheme, **10% of the capital expenditure** will be given to the concerned GP or VWSC/ Pani Samiti as an incentive.
- This will serve as a revolving fund to meet the emergency repair and maintenance repair and maintenance cost of the Scheme.

JJM and Employment Opportunities

- To ensure the availability of skilled human resources in villages and to carry out regular O&M, local youth are being upskilled as masons, plumbers, electricians.
- Also, **five women in every village are being trained** on using field Test Kits to test the quality of water supplied, conduct sanitary surveys, and upload data on the JJM portal.
- Further, there is a boost in the manufacturing industry of pipes, motors, cements, etc.
- As a result, employment opportunities are also increasing for the local youth in their own villages.

Innovation and Use of Modern Technology

- To leverage new technologies and bring innovative solutions, a Technical Committee under the chairmanship of Principal Scientific Advisor (PSA), has been constituted.
- To ensure transparency & accountability, online JJM Dashboard has been created.

Water Security Development

- Out of total available freshwater, about 85% is used for agriculture, 10% for industrial and only about 5 % is used for drinking and domestic purposes.

- Water is a finite resource that need to be replenished every year and must be consumed judiciously without polluting the sources and anthropogenic factors.
- Thus, to achieve water security, there is no choice except to focus on rainwater harvesting, recharge of aquifers, depending of water bodies, proper storage, and efficient utilisation.
- It is even more important to collect water from precipitation and keep it clean for use considering that 256 out of 734 districts are water-stressed already.
- This requires village communities to start water budgeting to understand and improve water-use efficiency by changing *water usages pattern, shifting to less water-consuming crops, and/or switching to micro-irrigation, i.e., drip and sprinkler systems*.

Steps Taken

- In 2019, a **new ministry of Jal Shakti** was formed by integrating the two former ministries to strengthen efforts for a holistic approach to the water sector.
- Jal Shakti Abhiyan was lauched to achieve the dram of piped water for every house. Other steps included:
  - ✓ Convergence with schemes like MGNREGS, Atal Bhujal Yojana, Pradhan Mantri Krishi Sinchayee Yojana, etc.,
  - ✓ India focused on ending open deflection in order to protect the water bodies and to drive a large-scale positive behavioural change towards improved hygiene.
  - ✓ Similarly, many initiatives such as Solid Liquid Waste Management (SLWM), plastic waste management etc., are being promoted.

Achievement

- Currently, about **9 crore (46%) rural households** in the country have assured provision of clean tap water supply.
- Every rural household in 101 districts and 1.40 lakh villages is getting a clean tap water supply.
- India is a **shining example on a global platform for its impactful WASH policies** that are being driven on such a large scale while building a movement of behavioral changes.

Conclusion

- Leveraging new technology, providing quick and updated information meets aspirations of a new India.
- The vision is to build public utilities ensuring long-term assured service delivery and hoping that the linked sectors are also influenced by this approach.

DIGITAL IDENTITY

- Aadhar the unique variable digital identity is the backbone of India's digital revolution. The system is built on a unique 12-digit identification ID for each Indian resident.
- It has significantly improved financial inclusion, access to welfare service, tax compliance, retail payments, and the management of government subsidies.
- In 2014 Aadhar was combined with Jan-Dhan initiative, a financial inclusion programme for India's large number of unbanked households then.

Pillars of India's Strong Digital Foundation

- This new account had the provision to be linked to both mobile numbers and Aadhar, creating the **Jan-Dhan-Aadhar-Mobile, or JAM trinity**.
- Other pillars include:
  - ✓ the Unified Payments Interface (UPI) and Bharat Interface for Money (BHIM)/Bharat Quick Response (QR) code for payments,
  - ✓ Digilocker for online document access and retrieval,
  - ✓ e-sign, APB, Aadhar Enable Payment System (AEPS), and the Bharat Bill Payment System.
- **India Stack -** India Stack refers to the ambitious project of creating a unified software platform to bring India's population into the digital age.
  - ✓ It is a term used for a **set of open APIs and digital public goods** that aim to unlock the economic primitives of identity, data, and payments at population scale.
  - ✓ It has played a catalytic role in India's digital foundation and in the country's digital evolution.

Fintech Innovation

- Fintech innovation has grown rapidly. One survey ranked **India second in strength of the fintech movement**. To ride the fintech wave, banks are collaborating with fintech startups.
- **India's Differentiated Banks** (Payment & small finance Banks) have also driven significant digital innovation.
- RBI has outlined a possible framework for the adoption of the blockchain technologies in the financial sector.
- Micro-ATM with Aadhar system is a well-established system and many more application can be built on this system.
- The number of UPI transactions has increased **to more than 4600 million** in the month of January 2022.

FINTECH REVOLUTION

- India's fintech landscape has evolved at a breakneck pace in the past decade. The once fully cash-dependent Indian economy has been transformed by the convenience and efficiency of digital service.
- From 834 million total Internet uses to 4617 million total UPI transaction, India's fintech revolution is at a population scale, exceeding those of most countries globally.
- **Digital payments have grown 160x** in India since 2003, and by 2025 are expected to add 26 lakh jobs and 2.8 lakh crore in economic value.

Government Policies And Regulation Supporting Fintech Revolution

- Some of the steps include: Jan-Dhan Yojana, e-RUPI (for cashless payments), India stack (public digital infrastructure based on open APIs), Multiple initiatives for financial literacy, BHIM UPI.
- UMANG App, providing one-stop platform for multiple government services, has witnessed cumulate 1.7 billion transaction.
- The **Additional Factor of Authentication** through PIN or OTP has been recognized globally as an Indian innovation responsible for relative lowering the incidence of frauds.

Covid-19 & Fintech Startups in India

- As of December 2021, India has over **17 fintech startups that joined the Unicorn club**, and the sector saw cumulative funding of around USD 27.6 billion.

- Additionally, **India is ahead of US, UK and China combined** when it comes to real-time online-transactions, with 25.5 billion real-time payments recorded in 2020.

Way forward

- Policy support in the area of **data security and fraud management** is essential.
- **Greater customer awareness** is also important to prevent frauds and cybercrimes.
- We need to simplify the KYC policy for merchants and customers.
- We need to continue building the payments' infrastructure and facilitate offline payments inclusive for cities that fall into the categories tier 3 and below.

International Collaboration

- It has become necessary to collaborate to other countries in linking national payment infrastructures.
- India and Singapore have already taken a step in the direction. Their respective payments systems, i.e., **UPI and PayNow will be linked in July 2022**, allowing users to make instant and low-cost fund transfer directly from India to Singapore.

Conclusion

The future of our country will be defined by how well we can integrate digital solutions across platforms, build digital talent at scale, and balance between profit.

ARTIFICIAL INTELLIGENCE IN FINANCIAL SECTOR

- The crucial role of financial technology is unquestionable in India, where transactions worth Rs 22.5 lakh crore were made through digital systems in the last financial year.
- The ACI worldwide report concludes that India had become numero uno in the world in terms of online transactions two years ago itself.

Need for AI and Other Technological Solutions

- While the advent of digital technologies has resulted in incredible savings in terms of money, resources, lobour, processes, and time.
- However, on the other hand, issues related to security and privacy have also cropped up. Frauds, identity thefts, and dozens of other crises have come to the fore, harming the common man and our financial system.
- There is need to find a safe haven in artificial intelligence, quantum computing, and blockchain.
- The scope of using these new technologies, however, is not limited only to maintaining the security of the data and increasing efficiency.
- Today, technologies like AI and data analytics have made it possible to analyse the information very accurately and predict how to control the bad account, choose the right persons for loans, and look for better opportunities for reinvestment.

Technology in Financial Sector

- Crores of people have become part of the banking system through Jan-Dhan Yojana.
- The procedure related to KYC (know Your Customer) have become more effective. With the use of mobile and Aadhaar, it has become possible to authenticate to authenticate the identity of the actual account holder on the spot.

- Nowadays, a new area is also gaining popularity in financial technology called **Buy Now, Pay Later**. These are loans of a small amount for which negligible or very little interest is charged.
- AI plays a vital role in the technologies that monitor and analyse customer behaviour and activities. Banks can grow their business and reach good customers by analyzing such data.
- **Predictive analysis** is often mentioned in the in the field of data analysis. It can be predicted who may need a loan.
- These technologies can also be of excellent use in fraud prevention. First, **AI can recognize similar patterns**, and secondly, **it can indicate what methods can prove effective to solve them**.
- In the year 2020, various companies lost about USD 56 billion throughout online frauds. Nowadays, these are threats like ransomware that can cripple the financial sector.
- In such a situation, AI and data analytics can emerge as the backbone of our security solution systems.
- The **role of Chatbots equipped with AI** is increasing in providing services to customers.

RURAL BANKING AND FINANCIAL SERVICE

- Schemes such as JAM (Jan Dhan-Aadhar-Mobile) Trinity and Digital India marked a watershed moment in the financial inclusion of rural India.
- In 2016, the **National Payments Corporation of India (NPCI) launched the UPI** to streamline the digital payments system in India. As per NPCI data, in 2021 UPI has transacted Rs 6.39 trillion.
- However, with only **28% internet participation from rural India**, these transactions largely tell the story of urban India.

Rural Economy: Changing Landscape

- The rural Indian economy is primary cash-driven. Undergoing a change in its predominantly agrarian image, there is an increasing diversification in jobs and incomes in rural India.
- The non-agricultural sector now contributes two-third of agricultural income.
- Over the years, banking correspondents (BCs) have performed a central role in digitally empowering rural areas.

Benefits of Digital Banking

- Access to digital banking services has promoted widespread usage of digital financial and banking services by rural citizens, especially at the time pandemic and lockdown.
- Convenience and ease of transactions permitted by digital and banking services helped people save time and money.
- Even ATMs are sparsely placed. As per the World bank, I**ndia's rural areas have 20% of the country's ATMs**. Digital banking offered a solution for such areas.
- Digital access enables people to access their money anytime and anywhere. Digital payments make it easier to pay exact amounts without worrying about change.
- Rising awareness and digital financial literacy camps have increased access to digital financial systems.
- Digital payments promote of purchases and make it easier for entrepreneurs to receive payments without default.

Challenges

- Efforts were made to ensure internet and mobile penetration through the country. While a lot has changed, there is a long way ahead.
- Users **lose trust when their money gets stuck** midway during online transactions due to network and server issues.
- **Lack of proper grievance redressal mechanism** is also cause of concern. Bank official are often unresponsive towards customer's plight.
- The increasing use of digital payments has been accompanied by increased cases of online fraud.
- Gendered use of digital financial services is also a cause of concern as very few women use it.

'Phygital' Banking and Financial Services

- Banks, governments, and private institutions have tried to address the two building blocks of financial inclusion- **access and delivery**.
- Recently, the Financial Minister urged the Indians Banks Association to increase the presence of banking services in rural India by deciding where they need to be physically present and where digital services can be extended.
- The World Economic Forum believes that a **phygital strategy**, which balances physical and digital interactions as an absolute necessity is the way forward in the normal.

QUALITY EDUCATION

Issue of Dropouts

- The data for higher grade indicates some serious issue in retaining children in school system. The GER for Grades 6-8 was 90.9%, while for Grades 11-12, it was only 56.6%. This indicates that a significant proportion of enrolled students drop out after Grade 8.
- As per the 75th round household survey by NSSO in 2017-18, the number of Out Of School Children in the age group of 6-17 years is 3.22 crore.
- In the context, the education policy is attempting to reduce the dropout rate and achieve 100% GER from preschool to Secondary level by 2030.

New Education Policy (NEP)

- NEP focuses on reforming and revamping all aspects of the education structure. As per the NEP, in addition to cognitive development, the students also need to equipped with critical 21st-century skills. The policy also aims to provide **quality textbooks at lowest possible cost.**
- To maintain the quality of high education, a National Assessment Center, PARAKH (Performance Assessment, Review, and Analysis of Knowledge for Holistic Development) has been set up under MHRD.
- It fulfils the basic objective of settings norms, standards, and guidelines for student assessment and evolution for all recognized school boards of India, guiding the State Achievement Survey (SAS) has also been proposed in NEP.
- It is proposed to develop a **National Digital Education Architecture** (NDEAR) to support teaching and learning activities.

Key Relevant Schemes/Projects to Achieve Aims And Objectives of New Education Policy

- **ASPIRE (Accelerating State Education Programme to Improve Results)**: A Centrally Sponsored Scheme Supported by Asian Development Bank. It is to be implemented in five States viz., Gujrat, Assam, Jharkhand, Tamil Nadu and Uttarakhand.
- **Exemplar**: The Scheme of exemplar aims to prepare more than 15000 schools of excellence which will help in showcase the implementation of NEP 2020.
- **New India Literacy programme (NILP):** A new Centrally Sponsored Scheme of Adult Education.
- **Operation Digital Board (ODB):** It provides class-centric digital intervention for teaching and learning and is proposed to be implemented for class IX to XII in all the government and aided schools in the country.
- **Pradhan Mantri Poshan Shakti Nirman (PMPOSHAN**) - To improve the nutritional status of children studying in classes I-VIII in eligible schools.
- **Pradhan Mantri Innovative Learning Programme (DHRUV) -** To provide guidance from renowned/prominent persons in their field to select talented student.
- **Samagra Shiksha -** The erstwhile Scheme of Sarva Shiksha Abhiyan (ASS), Rashtriya Madhyamik Shiksha Abhiyan (RMSA) and strengthening the Teacher Training Institution have been merged to form the Scheme of Samagra Shiksha.
- **Strengthening Teacher-Training and Learning Results for States (STARS)** - To support the States in developing, implementing, evaluating, and improving interventions with direct linkages to improve education outcomes and to schoolwork transition strategies for improved labour market outcomes.

Way forward

- Public spending on education has been in the range of 2-3.5% and continues to be so. The reforms envisaged through NEP would require a substantial increase in public expenditure on education
- As per the Annual Status of Education Report (ASER) 2020 Wave-1 (Rural), released in 2020, the percentage of enrolled children from government and private schools owning a smartphone rose enormously from 36.5% in 2018 to 61.8% in 2020 in rural India.
- If utilized well, the resultant reduction in the digital divide between rural, urban, gender, age, and income groups is likely to **reduce inequalities in education outcomes**.
- The convergence of State and Central Government funds and education schemes would be useful in many ways to achieve the objectives of NEP 2020.

DIGITAL CURRENCY

The current landscape of India makes a strong case for introducing a Central Bank Digital Currency (CBDC). An increase in the availability of low-cost smartphones and low-cost 4G data has further dependence digitalization in India.

Fiat money is **not backed** by any commodity such as gold or silver and is typically declared by a decree from the government to be an enforceable legal tender.

Cryptocurrencies Are Gaining Momentum

- Today, countries are sized with idea of cryptocurrency as in this modern digital age, paper banknotes are gradually losing their role as a reference value in payment system across the worlds.

- A cryptocurrency like bitcoin is cryptography-based peer-to-peer electronic cash system, founded on blockchain and distributed ledger system, that allow the transfer of values without any financial intermediary such as banks.

Challenges With Cryptos

- A committee of International Financial Reporting Standards Foundations (IFRS) Foundation pointed out cryptocurrency cannot be treated as financial assets as **cryptocurrencies is neither cash nor equity instrument**.
- There is **no central agent to regulate** or stabilize the value of currency.
- The transactions are slow, costly, non-scalable, and the process is far from simple.
  - ✓ E.g., for Ethereum, one of the leading cryptocurrencies, the average productivity of validators is 15.5 transactions per day and per validator.
  - ✓ This is against UPI that processed 136 million transactions per day in October 2021 alone.
- Moreover, the **average time** takes to complete a bitcoin transaction is 24.59 minutes.
- Cryptocurrencies are extremely volatile.
- There is threat to the security of the parties involved in the transaction and there is a potential risk of fraud.

India and Digital Currency

- With the budget of 2022, India has officially stepped foot into the digital currency space.
- The Finance Minster proposed to introduce a **Central Bank Digital Currency (CDBC)-** a digital version of the rupee, using blockchain and other technologies, starting 2022-23.
- **RBI also constituted a fintech department to facilitate innovation** in fintech and supervise the current financial landscape in India.

Digital Currencies Across The World

- According to Atlantic council, 87 countries representing over 90% of global GDP are currently exploring a CBDC in contrast to May 2020, when only 35 countries considering it.
- Moreover, there are **9 launched digital currencies in the world** and 56 digital currencies are under research or development.
- Jamaica recently announced its sovereign digital currency to be released in 2022. Eastern Caribbean countries launched a **digital currency, DCash, in 2021 itself**.

What is CBDC

- A Central Bank Digital Currencies is a digital token, issued by central bank of country. They are **pegged to the value of that country's fiat currency** and enjoy government mandate as oppose to cryptocurrencies.
- A BIS publication highlighted three different variants of CBDC:
  - ✓ **Account based**, where central bank allows people open account and transfer money between account holders.
  - ✓ **Token based or retail based**, where each token represents digital cash for use by the general public or non-banking entities.
  - ✓ **Whole sale based** where a restricted access digital token is issued for whole sale settlement like interbank payments, and even, cross border payment.

Digital Currencies And Digital Payment Portals

- It is important to understand that digital currencies are not the same as transaction made on digital payments portal.
- The transactions on these portals are **merely an exchange of Fiat money** facilitated by technologies **where no physical change is taking place** between parties involved in the transaction.
- A digital currency, on the other hand, is another category of Fiat money that lack any physical attributes and exists only in electronic form.

CBDC in India: Need of the Hour

- There is a diverse range of virtual currencies being circulated and the market currently is extremely fragmented.
- Due to their limited scale and efficiency, the number of transactions occurring through private virtual currencies is very low.
- The degree of pseudo-anonymity provided by private digital currencies discourages participation as the transactions have to be recorded on a public ledger that every participant has access to.
- There are many technical and security concerns associated with its use.
- Penetration of private digital currencies remains low which offers a strong case for India's own digital fiat rupee that will promote financial inclusion and increase demand for real money balances.
- It will ensure privacy, transferability, convenience, accessibility, and financial security.
- In a macroeconomic sense, the introduction of CBDC will also help in **reducing the cost of transactions** for corporate consumers, particularly large ones, across borders.
- **India's high currency-to-GDP ratio** holds out another benefit of CBDCs that can replace large cash transactions and reduce the costs that the central bank bears for printing, transporting, and managing cash. As per RBI's Annual Report for 2020-21, the printing money bill stood at a staggering Rs 4,000 crore.
- CBDC currency is hard to duplicate or counterfeit and is secured by consensus mechanisms that prevent tampering. This currency offers stability and safety in a digital currency market.
- As paper currency makes it difficult for interest rates to go negative at the time of financial crises, **interest-bearing CBDC can allow banks to cut interest rates** in response to a large deflationary pressure.
- Discontinuation of paper currency is also desirable as a large sum of cash is **precisely used to hide transactions** in countries, especially India.
- Additionally, digital currencies offer a way to not just reduce but also track frauds, ensuring that resources of the economy are not misused.

Conclusion

- Once the use of digital currency becomes widespread, backed by the government's mandate, it can be used in Direct Benefit Transfers (DBTs) to the vulnerable population ensuring increased exposure to digitization and quick financial assistance at the same time.
- CBDC will also be further push to e-commerce with the greater trust of the masses in digital transactions that are backed by the government.

STARTUPS IN SPACE TECH

- **Indian national Space Promotion and Authorization Centre** (IN-SPACe) has been constituted as an autonomous agency in the Department of Space (DOS). It has been constituted for enabling space activities, as well as, usage of DOS-owned facilities by Non-Government-Private-Entities (NGPEs) and to permit, regulate, promote, hand-hold, monitor, and supervise Space Activities of NGPEs in India.
- **Technology Development Fund** (TDF) is a programme of MoD executed by DRDO under the Make in India initiative. The scheme has been approved to encourage industries, especially MSMEs and startups to develop technologies. The Scheme operates in Grants-in-Aid Mode.
- **Atal Innovation mission** (AIM) in collaboration with the ISRO and Central Board of Secondary Education (CBSE) launched ATL space challenge in September 2021. AIM has supported more than 15 startups working in Space Tech and related industries across India.
- **Under ANIC (Atal New India Challenges) Scheme: ANIC-ARISE programme of AIM** in association with ISRO launched challenge statements in the focus areas:
  - ✓ Propulsion,
  - ✓ Geo-spatial information using machine learning/Artificial Intelligence (ML/AI).
  - ✓ Application of robotics, Augmented Reality/ Virtual Reality (AR/VR) techniques.