

M-RNA Based medicines

- While using mRNA as medicine is new, mRNA has been inside you for your entire life.
- The cells in your body create mRNAs that serve as instructions to make specific proteins you need to function.
- Researchers can create new mRNAs to correct those instructions when they aren't working
- The "m" stands for messenger, as mRNA contains the message, or recipe, that codes for a protein.
- About one third of a cell's energy is devoted to maintaining the proteins you need, so cells are well equipped to recognise, use and then destroy mRNA once it's no longer needed.
- The language of mRNA is made of four building blocks called nucleotides, nicknamed A, U, C and G
- Scientists understand how mRNAs code for proteins, they can easily create recipes for any protein.
- These recipes can be edited to meet the needs of the patient, whether this means providing a whole new mRNA recipe or tweaking an existing one to make a slight variation of the protein.
- Producing mRNA treatments is also scalable because scientists can make large amounts of mRNA in the lab.
- Another benefit of using mRNAs as drugs are cells' natural ability to destroy them when they aren't needed.
- Since mRNAs aren't permanent, doses can be easily changed to meet the changing needs of the patient.

mRNA vaccines beyond COVID-19

- The COVID19 vaccines from Moderna and Pfizer BioNTech are the first mRNA based medicines to gain FDA approval.
- When these vaccines are injected into your arm, the mRNA is absorbed into some of your cells, which read the mRNA recipe and make the spike protein the virus uses to invade cells.
- Your immune system recognizes this spike protein as foreign and makes antibodies that prepare your body to attack the virus if you encounter it later.
- These mRNA vaccines demonstrate the flexibility of mRNA based therapies.
- As the virus that causes COVID19 mutates, new viral variants can evade existing antibodies and cause new waves of illness.

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- However, scientists are able to sequence new mRNA recipes based on these variants and tweak the vaccine recipes to match them.
- Boosters containing these edited recipes teach your body to make new antibodies that target the latest versions of the viral spike protein.
- Cancer vaccines, like BioNTech's BNT-111 for melanoma, target the most common cancer mutations in the hope of helping many patients.
- One mRNA drug increases the formation of new blood vessels, which can improve wound healing in diabetic patients who have poor blood circulation and higher amputation risks.

mRNA as treatment for disease

- The potential for mRNA-based medicine extends beyond vaccines to prevent infectious disease.
- One example is the use of mRNA to treat cancer. Some mRNA cancer treatments work like vaccines by training your immune system to specifically target cancer cells.
- As cancer cells grow, they rapidly gain mutations in many genes.
- Cancer vaccines contain mRNA recipes based on mutations commonly found in certain types of tumours.
- Another example is using mRNAs to treat propionic acidemia, a disease where children have low levels of two liver proteins that normally prevent toxic byproducts from building up in the body.
- The ability to easily customise and produce mRNA increases their potential as effective, personalised therapies with fewer side effects that can help many people.
- The Hindu

Afghanistan out of COP 28

- When injected into the body, the mRNAs from the vaccines allow normal cells to make those mutated proteins and broadcast them to the immune system, ramping up production of antibodies.
- Humanitarian concerns have been raised over Afghanistan being left out of United Nations climate negotiations for a third year in a row, as the country grapples with worsening drought and floods.
- Afghanistan is one of the country's most vulnerable to climate change, but the country was absent from the COP28 climate summit in Dubai.

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- It has been left out of U.N. talks since the Taliban took over Kabul in 2021.
- No foreign government has formally recognised Taliban leadership and it doesn't have a seat at the U.N. General Assembly.
- Foreign officials have cited the Taliban's restrictions on women as the reason for current isolationist policies, particularly its barring of girls and women from high school and universities.

The Hindu

Gelephu



- Bhutan's King, Jigme Khesar Namgyel Wangchuck, highlighted Gelephu Mindfulness City in his 116th National Day address, emphasising South Asia's ongoing economic transformation and the vast opportunities for the region, home to approximately two billion people.

- The proposed land connection from Gelephu or Samdrup Jongkhar, traversing Assam and Northeast Indian states, extends to Myanmar, Thailand, Cambodia, Laos, Vietnam, Malaysia, and Singapore, forming a dynamic economic corridor that bridges South Asia to Southeast Asia

- The Gelephu Special Administrative Region (SAR) is envisioned as an autonomous economic hub, endowed with the authority to shape essential laws and policies.

- With executive autonomy and legal independence, this SAR aims to become a distinctive economic centre, inviting foreign investment through a favorable business environment and compelling incentives.

The Hindu

Cities and cop 28

- United Nations Framework Convention on Climate Change (UNFCCC) initiated the COP in 1995, 44% of people lived in cities. Currently, 55% of the global population is urban and this is expected to reach 68% by 2050.
- The urban world today consumes nearly 75% of primary energy and is responsible for roughly 70% of CO₂ (76% of total GHG) emissions.

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- Hence, the desired results of the Paris commitments are not possible without addressing urban issues.
- At this year's COP, there was a special day dedicated to a ministerial meeting on urbanisation and climate change.
- COP28, argued for formally recognising the role of subnational governments in global climate change negotiations, accelerating and scaling up climate action by working across all levels of governance and sectors, and providing direct financing and technical assistance to cities and regions
- and economic inequities are quite inherent in their systems.
- So, to ensure fair participation in climate action plans and to claim loss and damage compensation, etc., there has to be a radical shift in the processes governing the cities
- During the preparation of Nationally Determined Contributions (NDCs) and National Adaptation Plans, cities find themselves excluded from the process of climate action plans.
- There is hardly any representation of city leaders and civil society groups in this process.
- some cities like Chennai are spearheading their climate action plan and have decided to meet their zero emission targets by 2050, even before the Indian national government's stipulated time period of 2070.

What can be done in the Global South?

- The cities of the Global South are far more vulnerable than their western counterparts.
- The city leaders are hardly empowered, the major employment is in the informal sector, adaptation is key as most cities are vulnerable to climate induced disasters
- In most countries, and in India particularly, 40% of the urban population live in slums.
- Pollution is a major contributor in reducing life expectancies and social
- Though this may sound too ambitious, it qualifies the point that cities are at the forefront in reclaiming spaces in meeting climate action plans.
- The Hindu

Anti-defection law

- The anti- defection law, found under the Tenth Schedule of the

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Constitution, was enacted to curb frequent floor crossing by legislators.

- It provides for the disqualification of elected legislators from the legislature in instances where they voluntarily switch parties or vote against the party's direction.
- But when two thirds of elected members of a party agree to "merge" with another party, they become exempt from disqualification.
- Before 2003, there was a provision where, if as a result of a split in the original party, onethird of the members of the legislature moved out of the party, they were exempt from disqualification.
- Another practice which can be loosely termed as "splits followed by mergers".
- In this trend, an elected legislator (or a group of legislators) would separate from the political party they belonged to, and avail themselves of the exemption given to splits between political parties by forming a group of one third MLAs of the legislature party.
- After that, the entire group of splitting legislators would merge with another party. Given that they would merge in full, they would meet the threshold of twothird of the MLAs

required to effectuate a merger with another party.

- **Article 200**
- In a landmark judgment delivered on November 10, 2023, in the State of Punjab vs Principal Secretary to the Governor of Punjab and Another, the Chief Justice of India (CJI), D.Y. Chandrachud, gave a creative interpretation to Article 200 of the Constitution of India which relates to the options before a Governor when a Bill, after being passed by the State Legislature, is presented to him for his assent.
- The new interpretation relates to the real meaning of the first proviso to Article 200 which says that the Governor may send the Bill back to the Assembly with a request for reconsideration of the Bill as a whole or certain provisions thereof.
- It further says that if the Assembly after such reconsideration passes the Bill with or without the amendments, the Governor shall not withhold assent from the Bill.
- There has been a considerable amount of confusion about the meaning of Article 200 and this proviso.
- Most of the commentators of the Constitution, like D.D. Basu and others, have held the view that the

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Governor's power to withhold assent under this Article has a finality about it, and once assent is withheld, the Bill dies a natural death.

- They were also of the view that the option of sending the Bill back to the Assembly for reconsideration under the first proviso is discretionary and not mandatory.
- Thus, there was a presumption that the Governor's power to withhold assent from a Bill is absolute.
- The Supreme Court of India has in the Punjab case said emphatically that Governors cannot delay the decision on the Bills.
- Thus, the decision of the top court has brought greater clarity to Article 200 and Governors will have to quickly take a decision on the Bills.
- Governor can send to the President for his consideration.
- The second proviso to Article 200 mentions one kind of Bills which are mandatorily to be reserved for the consideration of the President.
- These are Bills which derogate from the powers of the High Court in such a way as to endanger the constitutionally designed position of that court.
- So, the Constitution requires the Governor to send all such Bills for the consideration of the President.
- Since consideration by the President means consideration by the Union government, the officials of the Home Ministry will in effect decide the fate of such Bills.
- The Constitution in fact does not refer to any category of Bills apart from the Bills mentioned above which can be sent to the President for his assent.
- Therefore, taking a surface view, the Governor can use his discretion to send any Bill to the President
- The question of crucial importance in the present political context is whether a Governor can reserve Bills for the consideration of the President at his discretion. The Constitution is silent on this.
- It makes only an indirect reference to the reserving of Bills for the consideration of the President in two places.
- Article 213 deals with the ordinance making power of Governors.
- Under this provision, in certain cases, the Governor can promulgate an ordinance only with instruction from the President.

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- Under clause (b) of the above Article, the Governor can promulgate an ordinance only with instructions from the President in a case where he would have deemed it necessary to reserve a Bill containing the same provisions as in the ordinance.
- The second place where the Constitution makes an indirect reference to the President's assent to a State Bill is in Article 254.
- Under clause (2) of this Article, a State law on an item in the Concurrent List will prevail in that State even when it contains a provision repugnant to the provisions of an existing central law if it has been reserved for the consideration of the President and has received his assent.
- This would mean that a Bill on a Concurrent subject can be or needs to be sent to the President for assent only if it contains provisions repugnant to an existing central law.
- But it does not indicate that every Bill on a concurrent subject should be sent to the President for assent.
- Infact the President has no jurisdiction to scrutinise and give assent to a Bill exclusively on a subject in the State List because of the federal scheme of legislative division.
- Therefore, it would seem that if the Governor sends a Bill on the State's matter to the President, it would be an abdication of the constitutional duty of a Governor.
- The Hindu