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Note -

- **The Newspaper clippings pasted in PDF are important from Mains point of view as it contains the fodder material for Mains Answer Writing.**
- **Also watch DND video lectures everyday @ 4 PM on Sleepy's YouTube channel in order to understand how to get the most out of everyday's Newspaper.**

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1. Energy inefficiency can short circuit cooling India

Issue

- More frequent and intense heat waves are expected with a rise in global temperatures due to climate change.
- In the last three decades, there have been 660 heat waves across India causing 12,273 deaths .
- India, with currently low penetration levels of air conditioners (ACs), will likely require substantial cooling services to keep citizens healthy and productive.
- The **India Cooling Action Plan** projects the number of room air conditioners to become **about four times in the next 10 years**, and about 10 times in the next 20 years, making India the world's largest energy user for cooling.

Scant data

- The implications of an increase in residential cooling demand have not been carefully examined.
- We know little about what cooling appliances people seek, and how and why people make their purchase decisions.
- The pursuit of energy efficiency, too – for instance, who buys efficient technologies and why – remains underexplored.

Delhi survey results

- The desired levels of cooling vary greatly even among relatively homogenous communities.
- In Delhi's wealthy neighbourhoods, 43% of the households own an AC, 39% own coolers and 18% only have a fan. Further, the way households use ACs also differs quite a bit.
- While most households use an AC for three to four hours a day during peak summer months, about 15% use ACs for over eight hours a day.
- It is interesting to note that the India Cooling Action Plan in its estimation of residential cooling demand, assumes that an average household uses an AC for eight hours a day, which as per our study seems to be an upper bound.
- People prefer different AC set-point temperatures, again indicative of varying perceptions of thermal comfort.
- Half of the households set their ACs between 24°C-26°C, and 27% prefer their AC temperature to be between 21°C-23°C.
- This wide range of preferred AC temperatures have important implications on energy demand requirements, as every 1°C increase in AC set-point temperature can lead to additional 6% energy savings
- Unfortunately, energy efficiency does not feature as a priority in the purchase of cooling appliances.
- Only 7% of the households have an energy efficient (star-rated) fan, and 88% of the coolers are locally assembled.

- Most people prefer to buy a three-star AC, and less than 20% of AC-owning households bought the highest rated five-star AC.

An obstacle

- Low levels of energy efficiency awareness
- A third of the households did not know of the Star Labelling programme
- Of the households that had heard of the programme, only half of them understood what it meant.
- Higher upfront cost and low market availability of more efficient air conditioners (four-star and five-star) are other reasons for buying a less efficient AC.
- Use of non-energy cooling methods such as natural ventilation being a common practice.
- Households using such non-AC cooling methods were found to use their AC for fewer hours.

Solutions

- Need to focus upon energy efficient consumption patterns.
- Awareness campaigns on the benefits of energy efficiency along with subsidies and financial incentives can help drive up the adoption of more efficient technologies.
- Encouraging the use of passive cooling alternatives including energy efficient building designs can help provide the desired thermal comfort with reduced dependence on energy intensive cooling technologies.

2. A place for disruptive technology in India's health sector

- As frontline warriors fighting COVID-19, the medical community has been selfless, but also losing a number of staff in the process.
- Nurses and attendants, on full-time duty, donning mainly masks and gloves as the only protective gear have been exposed to great risk.
- It is in such a situation that the relevance of **disruptive technology and its applications comes into focus**, potentially helping to reduce the chances of hospital staff contracting the infection.

Robotics

- There are reports in the global media of established innovative field hospitals using robots to care for COVID-19 affected patients.
- There are hospitals, in China, that use 5G-powered temperature measurement devices at the entrance to flag patients who have fever/ fever-like symptoms.
- Other robots measure heart rates and blood oxygen levels through smart bracelets and rings that patients wear; they even sanitise wards.
- Last year, in India, the **Sawai Man Singh government hospital** in Jaipur held trials with a **humanoid robot** to deliver medicines and food to COVID-19 patients admitted there.

Blockchain technology

- Blockchain technology can help in addressing the interoperability challenges that health information and technology systems face.
- The health blockchain would contain a complete indexed history of all medical data, including formal medical records and health data from mobile applications and wearable sensors.
- This can also be stored in a secure network and authenticated, besides helping in seamless medical attention.

Role of IR4.0

- Big data analytics can help improve patient-based services tremendously such as early disease detection.
- AI and the Internet of Medical Things, or IoMT (which is defined as a connected infrastructure of medical devices, software applications, and health systems and services) are shaping health-care applications.
- Medical autonomous systems can also improve health delivery to a great extent
- This system may also include autonomous critical care system, autonomous intubation, autonomous cricothyrotomy and other autonomous interventional procedures.
- **Cloud computing** is another application facilitating collaboration and data exchanges between doctors, departments, and even institutions and medical providers to enable best treatment.

UHC through digital technology

- According to the World Health Organization “Universal health coverage (UHC) is the single most powerful concept that public health has to offer.
- The question is about how UHC can be achieved through the application of digital technologies, led by a robust strategy integrating human, financial, organisational and technological resources.
- Studies by WHO show that **weakly-coordinated steps may lead to stand-alone information and communication technology** solutions, leading to a fragmentation of information and resulting in poor delivery of care.
- India needs to **own its digital health strategy** that works and leads towards universal health coverage and person-centred care.
- Such a strategy should **emphasise the ethical appropriateness** of digital technologies, cross the digital divide, and ensure inclusion across the economy.
- ‘**Ayushman Bharat**’ and tools such as Information and Communication Technology could be be fine-tuned with this strategy to promote ways to protect populations.
- **Online consultation** through video conferencing should be a key part of such a strategy, especially in times when there is transmission of communicable diseases.

Using local knowledge

- In addition to effective national policies and robust health systems, an effective national response must also draw upon local knowledge.
- **Community nurses, doctors, and health workers** in developing countries do act as frontline sentinels.
- An example is the **Ebola virus outbreak in Africa**, where communities proactively helped curtail the spread much before government health teams arrived.
- Another example is from **Indonesia**, where the experience of backyard poultry farmers was used to tackle bird flu.
- **Primary health centres** in India could examine local/traditional knowledge and experience and then use it along with modern technology.

Possible challenges

- The possible constraints are a **standardisation of health data**, organisational silos, data security and **data privacy**, and also high investments.

Question

Discuss the role of Disruptive technology in achieving Universal health care.

3. What needs to be done with vaccines

- Vaccines have proven to be effective against the SARS-CoV-2 virus in preventing serious illness and death.

Effectiveness of Covishield

- On June 14, Public Health England released a report that showed that the AstraZeneca vaccine had an effectiveness of 71% after one dose and 92% after two doses in protecting from hospitalisation due to the delta variant .
- In the first report of vaccine effectiveness from India, researchers from the Christian Medical College, Vellore, Tamil Nadu, reported an analysis of 8,991 staff who had been vaccinated between January 21, 2021 and April 30, 2021, predominantly with Covishield, in the Mayo Clinic Proceedings .
- The protective effect of vaccination was 92% against need for oxygen and 94% against need for intensive care. There were no deaths, but about 10% of those who had received one or two doses were infected. Although sequencing was not available, many breakthrough infections were probably due to the delta variant strain. These data from the United Kingdom and India show that the Covishield vaccine is working against the variants
- Although sequencing was not available, many breakthrough infections were probably due to the delta variant strain.
- These data from the United Kingdom and India show that the **Covishield vaccine is working against the variants**

Need

- In a time of urgent need and short supply, a clear and measurable goal is essential.

- The prioritisation and delivery strategy needs to align with the goal to achieve maximum impact.
- we will need to cover a larger proportion of the population, possibly extending at a later stage to children.

On herd immunity

- The Swedish strategy of limited restrictions and the **Great Barrington declaration** attracted much opprobrium as many scientific commentators considered it callous to follow a strategy which meant that a lot of people would get infected with the virus.
- **Herd immunity** or herd effect or herd protection is an often misunderstood term, but a key attribute is that the more transmissible the agent, the higher the level of the population that needs to be infected or vaccinated.
- With the delta variant, it is clear that the earlier plan to vaccinate a smaller proportion of the population is not appropriate and reaching **up to 85% of the population** might be necessary.
- This implies that not only will we have to consider all adults but we should be planning for **children as well**.

Long- and short-term goals

- The control of infection in the population is the **long-term goal**.
- The **short-term goal** is to protect individuals at highest risk and to save lives.
- The deaths from COVID-19 show clearly that those who are the **oldest are at the greatest risk of severe disease** and mortality, with distinct stratification of severity by age, **followed by those with comorbidities** such as diabetes mellitus and hypertension.
- Yet, the risk of severe disease and death among younger people, though low, is **not zero** and therefore when large numbers of young people get infected some of them will die even with the best medical management.
- Nonetheless, the goal of preventing the maximum number of severe cases and deaths clearly **requires an age descending approach**.

Issues in India

- Age based strategy that was initially implemented in India, but the opening of the age tiers has **not kept pace with the supply**.
- The Government has **not revealed a clear road map of availability** of vaccines and their supply to individual States.
- With the promise of vaccines as at least a partial solution, but with no certainty on availability, doubt, fear, anxiety and depression are widespread.

Need

- To move forward, we must accept that it is extremely unlikely that we will achieve the goal of vaccinating every adult by the end of 2021.
- Therefore, based on the principles of public health, we must vaccinate those **most at risk from serious illness** and death first. Based on population pyramid data, we can extrapolate that there are about 360 million above the age of 45 years.

Rural focus

- We must take the vaccine to every village, building on the experiences of the pulse polio programme and conducting elections.
- **Community leaders should be empowered** with information and tools to broadcast the message that the vaccine saves lives.
- The central government has centralised vaccine purchase but must **revisit the private sector allocation** and cede distribution to States, providing support when requested.
- The CoWIN app must not be a limiting factor on access to the vaccine.

Evidence, models, good data

- We must generate evidence and develop models to design the appropriate vaccination strategy for younger populations.
- If **cases are climbing in a particular region**, we should **direct vaccine doses there** to protect as much of the population as possible and decrease both disease and further spread.
- High vaccination coverage in cities may protect rural areas.
- Some **professions** are most likely to spread infection and should therefore be prioritised for vaccination.
- Finally, the Government must trust its citizens and share the information that is solely available to it.
- We need to **restore society to normalcy**.
- Good data, or the ability to measure what matters, is the key.

4. Planning for a biosecure future (13)

- COVID-19 has made it clear that our traditional imagination of national security is no longer credible.
- The preparedness of nation states and tenuous global security arrangements were insufficient in dealing with the crisis.
- The future of national security studies, therefore, will be forced to undergo a paradigm shift if it must retain any policy impact at all – it would need to rethink the sources of insecurity, to begin with.
- The growth of **exponential technologies** such as synthetic biology, artificial intelligence and nanotechnology is bound to change the theory and practice of national security.
- COVID-19 has quickened the inevitable.
- The rapid rise of synthetic biology in the last two decades and its **still- to-be-understood implications** haven't received sufficient attention from the security studies or policy communities.
- COVID-19 has further highlighted the biosecurity concerns of synthetic biology.
- The argument is not that COVID-19 originated in a lab, but that **dangerous bio-weapons can come from labs**

Synthetic biology

- Today, there is a growing realisation that exponential technologies have hitherto unforeseen national and global security implications.
- In 2014, for instance, the U.S. Department of Defense categorised **synthetic biology as one of the six 'disruptive basic research areas'** even though linkage between national security and **synthetic biology is yet to become an agenda item in mainstream national security debates.**
- Synthetic biology is a revolutionary technology which can help us **manipulate biological organisms** and processes for human betterment, especially in treating diseases, by re-engineering cells. But it is a **double-edged sword.**

Risk associated with Synthetic biology

- For one, there is the **possibility of deliberate misuse.** While the technology is still not easily accessible, the day is not far off when such technologies won't be difficult to access.
- There is a **need to carefully review,** especially in the wake of the pandemic, the biosecurity systems in place where such technologies are in use.
- **Accidental leaks** of experimental pathogens are another concern.
- **Insufficiently trained staff,** inadequately safeguarded facilities, and lack of proper protocols could all be behind such leaks.
- A well-planned attack using highly infectious pathogens synthetically engineered in a lab could be disastrous.
- Unlike the nuclear domain, the fields of biology or synthetic biology are not regulated internationally despite growing military interest in synthetic biology applications and their potential misuse.

Weapon of mass destruction

- Of the three types of The 'weapon of mass destruction' (WMD) **nuclear weapons** have received the maximum safety and security attention given the treaty and institutional arrangements associated with it. **Chemical weapons** come next.
- However, when it comes to bio-weapons, all we have is the Biological and Toxin Weapons Convention (BTWC) of 1972 with no implementing body.
- The BTWC **does not have a verification clause,** nor does it have clearly laid down rules and procedures to guide research in this field.

Article 1 of the BTWC

- While bio-weapons are banned, research for medical and bio-defence purposes are allowed.
- While this is understandable, the problem is that there is a **thin line** between bio-defence research and bio-weapons research.
- Since bio-defence research routinely uses pathogens and toxins for experimental purposes, processes, know-how and outcomes of bio-defence research **could potentially be used to create bio-weapons,** especially with the new advancements in synthetic biology.

- An Ad Hoc Group set up in 1994 to negotiate a **Protocol to enhance the transparency** of treaty-relevant biological facilities and activities to help deter violations of the BTWC submitted a report at the Fifth BTWC Review Conference in 2001 but was **not accepted** by the member states. The initiative has since been shelved.
- Pandemics have also highlighted that the traditional distinction at the international institutional level between biological weapons (a field governed by the BTWC) and diseases (a domain under the World Health Organization) may not be useful anymore.
- There needs to be more conversation between health specialists and bio-weapons/defence specialists.
- The **November 2021 BTWC review conference** must take stock of the advances in the field, address the thinning line between biotechnology research and bio-weapons research, and consider international measures for monitoring and verification.

India uniquely unprepared

- India is at a uniquely disadvantaged position compared to the more developed countries in this area given **poor disease surveillance, insufficient coordination** among various government departments dealing with biosecurity issues, and the pathetic state of the healthcare system.
- For instance, implementation of **biosafety guidelines** is the responsibility of the **Science and Technology Ministry** and the **Environment Ministry**.
- However, labs dealing with biological research are set up under the Indian Council of Medical Research and the Indian Council of Agricultural Research, which are under the **Ministries of Health and Agriculture**, respectively.
- Multiplicity of bodies and ministers makes coordination difficult, especially in the absence of an empowered coordinating body.
- The rising risk of diseases of zoonotic origin, the traditional ministry-wise separation might not be useful.
- Another important question is whether India, with its **porous borders** and ill-trained border control institutions, is prepared for defending against pathogens or dangerous biological organisms or agents arriving from abroad.

5. The world is hardly wired for cyber resilience

- A string of **high-profile cyberattacks** in recent months has exposed vulnerabilities in the critical infrastructure of even advanced nations.

America under attack

- Several high-profile cyberattacks were reported from the United States during the past several months.
- Towards the end of 2020, for instance, a major cyberattack headlined '**SolarWinds**' – and believed to have been sponsored from Russia – had rocked the U.S. It involved **data breaches across several wings** of the U.S. government, including defence, energy and state.

- Before the U.S. could even recover from this breach, thousands of U.S. organisations were hacked in early 2021 in an unusually aggressive cyberattack, by a **Chinese group Hafnium**, which had exploited serious flaws in Microsoft's software, thus gaining remote control over affected systems.
- In quick succession, thereafter, the U.S. has witnessed **three more major attacks**: an **audacious ransomware attack by Russia/East Europe-based cybercriminals, styled DarkSide**, on Colonial Pipeline (which is the main supplier of oil to the U.S. East Coast), compelling the company to temporarily shut down operations.
- There are reports of **the ransom being received in bitcoins** which was later seized by the U.S government.
- Another **Russia-backed group, Nobellium**, next launched a phishing attack on 3,000 e-mail accounts, targeting USAID and several other organisations.

Now, civilian targets

- Cyber, which is often referred to as the fifth domain/dimension of warfare, is now largely being employed against civilian targets, bringing the war into our homes.
- Most nations have been concentrating till date mainly on erecting cyber defences to protect military and strategic targets, but this will now need to change.
- The obsession of military cyber planners has been to erect defences against software vulnerabilities referred to as '**Zero-day**', that had the capability to cripple a system and could lie undetected for a long time. (The most celebrated Zero-day software of this kind to date is Stuxnet, which almost crippled Iran's uranium enrichment programme some years back).
- Today, other Zero-day software, no doubt exist, though little is known about them. What is, however, evident is that a whole new market currently exists for Zero day software outside the military domain, and the **world must prepare for this eventuality**.
- One related problem is that the distinction between military and civilian targets is increasingly getting erased and the consequences of this could be indeterminate.
- For instance, the 2012 cyberattack on Aramco, employing the **Shamoon virus, which wiped out the memories of 30,000 computers** of the Saudi Aramco Oil Corporation, has ever since been one reason for the very frosty relations between different countries in West Asia and the Gulf region.
- In the civilian domain, two key manifestations of the 'cat and mouse game' of cyber warfare today, are **ransomware and phishing**

Ransomware attacks and India

- **Ransomware attacks** have skyrocketed, with demands and payments going into multi-millions of dollars. **India figures prominently in this list**, being one of the most affected.
- Also experts believe that of late, the **recovery cost** from the impact of a ransomware attack – in India, for example, has **tripled** – and mid- sized companies, in particular, today face a catastrophic situation, if attacked, and may even have to cease operations.
- Thus, the **need to be aware of the nature of the cyber threat** to their businesses and take adequate precautionary measures, has become extremely vital.

- **Banking and financial services** were most prone to ransomware attacks till date, but oil, electricity grids, and lately, health care, have begun to figure prominently.

Health care data vulnerability

- One of the more vulnerable areas where data tends to be linked to a specific individual is in health care.
- Compromised 'health information' is proving to be a vital commodity for use by cybercriminals.
- All indications are that cybercriminals are increasingly targeting a nation's health-care system and trying to gain access to patients' data.
- The available **data aggravates the risk** not only to the individual but also to entire communities.
- Cybercriminals are becoming more sophisticated, and are now engaged in stealing sensitive data in targeted computers before launching a ransomware attack.
- This is resulting in a kind of '**double jeopardy**' for the targeted **victim**.
- Also, today's cybercriminals, specially those specialising in ransomware and similar attacks, are different from the ordinary run- of-the-mill criminals. Many are known to **practise 'reverse engineering'** and employ '**penetration testers**' to probe high secure networks.

Motivation for cyberattacks vary

- For (some) nation states, the motivation is geopolitical transformation
- For cybercriminals, it is increased profits
- For terror groups, the motivation remains much the same, but the risk factor may be lower.

Need for data protection

- Reportedly, we create more than **three quintillion bytes of data** everyday (some put it at over 2.5 quintillion) – with several billion devices interconnected to billions of end point devices exchanging petabytes of sensitive data, on the network.
- This is only bound to grow.
- **Ensuring data protection could**, hence, prove to be a rather thankless task, complicating the lives of Information and other security professionals.
- The data life cycle can broadly be classified into
- **Data at rest** (when it is being created and stored)
- **Data in motion** (when it is being transmitted across insecure and uncontrolled networks)
- **Data in use** (when it is being consumed).

Zero Trust Based Environment

- With mobile and cloud computing expanding rapidly, and also given the nature of the on-going pandemic, cybersecurity professionals are now engaged in building a '**Zero Trust Based Environment**', viz., zero trust on end point devices, zero trust on identity, and zero trust on the network to protect all sensitive data.

- There do exist quite a **few niche companies today, which have developed (or are developing) newer technologies** to create a Zero Trust Based environment employing: software defined solutions for agile perimeter security, secure gateways, cloud access security, privileged access management, threat intelligence platforms, static and dynamic data masking, etc.
- The moot point is whether not only those in authority but even more so those in the world of business, (specially oil and finance, and specifically health care) are aware of this – and, more important, are ready to utilise these technologies – to ward-off a cyberattack and safeguard their data.
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Preparation is needed

- Building deep technology in cyber is essential.
- New technologies such as **artificial intelligence, Machine learning** and quantum computing, also present new opportunities.
- Nations that are adequately prepared – conceptually and technologically – and have **made rapid progress in artificial intelligence and quantum computing** and the like will have a clear advantage over states that lag behind in these fields.
- Pressure also needs to be **put on officials in the public domain**, as also company boards, to carry out regular vulnerability assessments and create necessary awareness of the growing cyber threat.
- In the end, it might be appropriate to quote IBM Chairman, Arvind Krishna, that cybersecurity will be “the pressing issue of this decade” and that “value lies in the data and people are going to come after that data”.

Qns

Cybersecurity will be the pressing issue of this decade and that value lies in the data and people are going to come after that data.Comment

6. An elite club

- The G-7 summit, at Carbis Bay, sent out strong messages :
 - ✓ The first was driven by the United States’s new President Joseph Biden and his vow that “**America is back**” to take the lead on global challenges.
 - ✓ The G-7 commitment to **donate one billion coronavirus** vaccines to poorer countries and to **invest \$12 trillion** in their combined pandemic recovery plan depends on U.S. commitments for a large part.
 - ✓ **Invitation to “fellow democracies”** India, Australia, South Korea and South Africa are also an extension of his stated commitment to convening a Democracy Summit this year.
 - ✓ Even the slogan for the G-7, “**Build Back Better**”, was a White House term to declare America’s economy and jobs recovery plan.

✓ The second message was the consensus amongst the seven-member countries on **countering China**.

Challenges

- Though the bonhomie among the G-7 leaders was palpable, the **differences and contradictions in the grouping remain a challenge**.
- Even two decades ago, questions were raised about whether the grouping (earlier, the G-8), could claim its mantle as the world's "richest" countries, **when emerging economies, China and India, are not included**.
- On economic issues, the **EU is a more representative** unit than the individual European G-7 member countries.
- Finally, the premise of a group like the G-7, that of an exclusive club of the "haves" or "**the best vs the rest**", seems anachronistic in a world that is much more interlinked now than in 1975, when the grouping first came about.

India

- India, a **special guest to the G-7/G-8 since 2003**, has also maintained its independent course, especially on political issues.
- It is significant that the G-7 outreach communiqués that included the guest countries, did not make the same references to China as the main document, and **MEA officials clarified that Chinese aggression was not raised at the outreaches**, which focused on the pandemic, climate change and democratic freedoms.
- India **voiced concerns about some clauses** in the joint communiqué on **Open Societies which condemned "rising authoritarianism"**, net shutdowns, manipulation of information, and rights violations – areas where the Modi government has often been criticised itself.
- Addressing the session on Open Societies, Mr. Modi said that India is a "**natural ally**" to the G-7.
- In the present, the Government will be expected to walk the talk on its commitments at the G-7 outreach, especially in the areas of **information clampdowns**, given that **India had the largest number of Internet shutdowns in 2020**.

7. A policy difficult to defend

- The Union government recently reversed the liberalised vaccination strategy.
- States no longer have to bear the responsibility of procuring vaccines; the Centre will procure them on behalf of the States as the single purchaser.
- One **area of objection** has been that the private sector's share of total vaccines remains **unchanged at 25%**

Problematic decision

- As per some experts the private sector's share of total manufactured vaccines is out of sync with its share of total vaccination centres, which are far fewer than the government's, thus entailing a demand- supply mismatch between government and private centres.

- Although **capacity to vaccinate is a more important** metric to consider than just the relative share of vaccination centres
- However, the policy looks problematic even if the number and the share of private vaccination centres increases substantially to accommodate their share of total vaccines.
- A 25% share for private vaccination entails an **implicit assumption that 25% of the population** is willing and able to pay for a commodity for which social benefits exceed private benefit. This is indicative of our mistaken assumption
- Preventive services like vaccines generate a lower private demand than curative services.
- Subsidising or **incentivising users and penalising non-users** of preventive services are two ways of promoting consumption of such services.
- Even assuming reasonably higher levels of wealth, education, and COVID-19 awareness in the uppermost 25% of the population, significant demand generation concerns would remain, which may lag behind desirable levels.
- Not to mention that this section is also likely to have better access to free vaccines provided by the government, creating a 'crowding out' effect for the poorer sections.
- A large chunk of self-payers are likely to be **younger**, productive individuals, who are at lesser risk of severe disease and mortality than the elderly.
- It is crucial to realise that **vaccinating the poorer and marginalised sections, even if it is free of charge, is much more challenging** than vaccinating the easily accessible better-off sections. The resultant disparities along geographic and socioeconomic lines would not be consistent with the notion of herd immunity.

Need

- Need to increase the government's share of total vaccines.
- It is unfair to demonise private hospitals in this situation, especially since service charges have now been capped.
- The benefits, if any, of differential pricing are likely to accrue mainly to vaccine manufacturers.
- But vaccine production is also a costly process, and the government's track record of investing in domestic COVID-19 vaccine production has been anything but phenomenal.
- The result of this is that money spent out-of-pocket is feeding vaccine production in India, which is an **inequitable and regressive way of doing things**.
- More **decentralised but accountable regulation** might be called for.

8. America's mistakes in the 'forever war'

- President Joe Biden has set the **September 11 deadline** for all **American troops to leave Afghanistan**, winding up 20 years of the invasion by the United States.
- Military officials say the withdrawal would be complete about two months ahead of the schedule.

Challenges

- The peace talks between the Afghan government and the Taliban that **started in Doha last year** have been **frozen for months**.
- The bid by the U.S. to **hold a summit in Istanbul** between the warring parties has been a non-starter.
- On the ground, the Taliban are making steady advances.
- Since May 1, the Taliban have **seized eight districts in four different regions**.
- As of now, about 22% of Afghanistan's 398 districts are in the Taliban's control and 24% with the government, while **more than half of the country's territories are contested**.

No learning from the Afghanistan's history

- Afghanistan was invaded by great powers in the 19th and 20th centuries as well.
- The **British empire**, which feared a Russian invasion to India via Afghanistan, sent troops to the country in 1839, ousted its ruler Dost Muhammad and established a client regime of its ally, Shah Shujah.
- But the British had to withdraw in the face of Afghan resistance, mostly by Pashtun warriors; while retreating in 1842, all of the British and Indian troops, except one doctor, were massacred by Afghans.
- In 1979, the **Soviet Union sent troops to Afghanistan** to salvage the country's nascent communist regime, orchestrated a coup and established a friendly regime.
- The **Soviets, faced with a bloody Mujahideen resistance** (which was bankrolled and trained by the U.S., Saudi Arabia and Pakistan), had to pull back in 1989 in ignominy.

Wrong goal

- Once they invaded Afghanistan, the U.S. should have gone after the terrorists, destroyed their networks and then withdrawn. That is what a realist power would do.
- But the U.S., driven by the neoconservative globalism of the Bush administration, had set more ambitious goals for itself. It wanted to topple the Taliban and rebuild a centralised "democratic" state in Afghanistan.

Strategic failure

- After the Taliban regime was toppled and al-Qaeda driven back into the caves and mountains, the U.S. still had a chance to stabilise the country with help from its different factions and leave.
- In December 2001, Taliban spokesperson Mullah Abdul Salam Zaeef had offered to surrender.
- The Taliban sought modest terms – **Mullah Omar**, their leader, should be allowed to return home.
- But the **Americans rejected the offer** and promised to destroy the Taliban in every corner of the country.
- The Taliban are an indigenous militancy with deep roots in Afghanistan's Pashtun majority.
- Toppling them from power was easy, but **defeating them in their country was not**.
- And after vowing to defeat them, the U.S. launched the Iraq invasion to topple Saddam Hussein and export democracy there. This was the second mistake.

Pakistan support

- The U.S. took Pakistan's tactical support for its war on terror
- Pakistan played a double game by **supporting the U.S. campaign** in Afghanistan while at the same time **offering refuge** and support to the Taliban.
- For Pakistan, the **Taliban have been their wild card** to check India's influence in Afghanistan.
- When the **U.S. declared victory in Afghanistan prematurely** and went on to **invade Iraq in 2003**, it became easier for **Pakistan to assist the Taliban's regrouping**, at a time when the Afghan government was grappling with corruption and infighting on ethnic lines.
- When the U.S. got stuck in the morass of the Iraq war, the Taliban were steadily making a comeback in Afghanistan's hinterlands. By the time the U.S. shifted its focus back to Afghanistan, after defeating the Islamic State in Iraq and Syria and amid growing calls at home to end the "**endless wars**", the **Afghan war had already been lost**.

Surrender to the Taliban

- The U.S. has also been shifting its focus to East Asia where China is rising.
- And given the foreign policy challenges the U.S. is facing now elsewhere, continuing troops and commitments in Afghanistan makes little sense.
- But the U.S. **could have opted for a more orderly withdrawal**. Instead, it surrendered to the Taliban's terms to pull back its troops.

No deal with Afghanistan government

- The Taliban have not defeated the Afghan troops yet.
- The Afghan government has about 200,000 battle-hardened soldiers, including the U.S.-trained elite special forces.
- The Afghan government was **kept out of the whole process** because the Taliban do not recognise them as being legitimate.
- And the U.S. struck a **direct deal with the Taliban**, without addressing any of the Afghan concerns.

Post withdrawal

- The American exit would now decisively **shift the balance of power** in favour of the Taliban.
- Taliban carried out **targeted killings aimed at weakening the Afghan government** and terrorising society immediately after signing the agreement with the U.S. in February 2020.
- And ever since the remaining U.S. troops started pulling back from Afghanistan on May 1, the Taliban have started capturing more territories.
- The war may be winding down for the Americans. But for Afghans, it will **continue in one form or another**.

9. Needed: full disclosure on electoral bonds

- In 2014, the Delhi High Court held that both the Congress and the Bharatiya Janata Party (BJP) were guilty of illegally accepting **donations from two companies** registered in India but whose controlling shareholder was Vedanta, a foreign company.
- The court held that this was in contravention of the Foreign Contribution (Regulation) Act (FCRA), 1976, as the donations accrued from “foreign sources” within the meaning of law.
- Following this indictment, the two parties came together in the last memorable bipartisan move.
- In 2016 and 2018, the government **amended the FCRA** through the annual Finance Bills, to retrospectively legalise the violations. The amendments and subsequent changes brought in by the current government enabled new and regressive pathways that afford full anonymity to corporate and foreign political donors.

A new form of anonymity

Companies donation

- Earlier, only profit-making domestic companies could contribute to political parties; now loss-making companies can too.
- Earlier, foreign companies or companies where the controlling stake was held by a foreign company couldn't contribute; now they can.
- India's political parties could theoretically be fully funded by a foreign company operating in India or by a foreign entity through a shell company.

No transparency

- In 2017, the then Finance Minister said **anonymous cash** donations to political parties would be **reduced from ₹20,000 to ₹2,000** to ensure greater transparency in political funding.
- However, the concurrent introduction of electoral bonds brought a new form of anonymity to thousands of crores of donations. It drastically **reduced public and legislative oversight**.
- Only the **ruling party via the State Bank of India (SBI)** has a full account of all donations being made via electoral bonds, to itself and to Opposition parties.
- Parliament, the Election Commission and the Opposition parties do not have this information, nor do the public.

Supreme court

- The ADR PIL challenges electoral bonds as unconstitutional. In March 2021, the Supreme Court refused to stay the sale of electoral bonds before the West Bengal elections.

RTI

- The Right to Information (RTI) Act of 2005 enables easier access to information held by public authorities.
- No ordinary person has the resources to navigate documents on obfuscating government websites or pore over income tax returns.

Challenges

- If we set aside individual donors and focus just on registered entities, we will find that the **full scale of registered entities is unknown**.
- Even if registered companies filed annual financial statements, many **do not disclose political donations**.
- Crucially, political parties do not need to disclose their electoral bond donors either.
- According to back-of-the-envelope calculations, there are **close to 25 lakh potential donors** comprising just **companies and firms**.
- This includes about 12.6 lakh active private limited companies as of January 31, 2021.
- More than 12 lakh firms filed income tax returns for the assessment year 2018-19.
- **Firms, unlike companies, have no regulatory mandate** to submit their annual reports except for filing their annual tax returns, since their functioning is regulated by Acts other than the Companies Act of 2013.
- Even if these documents are indeed filed and available in the public domain, they **will not specify donations to parties**.

Winners and losers

- In effect, electoral bonds give political power to companies, wealthy individual donors, and foreign entities, thus diluting the universal franchise of one voter-one vote.
- Every vote is not equally valuable if companies can influence policies through hidden donations.
- The winner of this arrangement is the ruling party, whether at the Centre or in a State, and the loser is the average voter.
- Companies and political parties could exercise moral leadership and voluntarily disclose the identity of recipients and donors, as the Jharkhand Mukti Morcha recently did.
- Till then, voters are stuck with a ruling party with war chests of resources, being subject to relentless election campaigns, while donors surreptitiously and directly influence policy.

10. Embracing cryptocurrency

- On June 9, El Salvador became the first country in the world to adopt bitcoin as legal tender.
- This is illustrative of the rising global trend of embracing cryptocurrencies with all its attendant risks.

India

- India finds itself at a crossroads of **prohibition and regulation** in its tryst with cryptocurrencies, globally, the inclination towards permissive regulation recognises the freedom of choice given to people for using a medium of exchange other than a central bank-backed fiat currency.

Swinging between extremes

- The cryptocurrency market in India has developed in a largely laissez-faire regulatory space since the **first recorded cryptocurrency transaction in 2010**.

- Between **2013 and 2018**, the **government's response** to the rise of virtual currencies was cautionary, alerting users to the potential risks posed by cryptocurrency transactions.
- These fears were legitimate and stemmed from cryptocurrencies' volatility, their **susceptibility to hacking**, and the fact that they could potentially facilitate **criminal activities such as money laundering**, terrorist financing and tax evasion.
- Instead of developing a regulatory framework to address these issues, the **Reserve Bank of India (RBI)**, in **April 2018**, effectively imposed a **ban on cryptocurrency** trading. This ban was overturned by the **Supreme Court in 2020**.
- The court reasoned that there were **alternative regulatory measures** short of an outright ban through which the RBI could have achieved its objective of curbing the risks associated with cryptocurrency trading.

Draft Cryptocurrency and Regulation of Official Digital Currency Bill, 2021.

- The draft Bill proposes to criminalise all private cryptocurrencies while also laying down the regulatory framework for an RBI-backed digital currency.

Lessons from other countries

UK

- The U.K. has classified cryptocurrency **as property** and this has paved the way for cryptocurrencies to be encompassed within a regulated legal framework in the country's economy.
- The U.K. has sought to regulate the functioning of crypto-businesses while **still imposing some restrictions** to protect the interests of investors.

Singapore

- On the other hand, while there is no exact legal classification of cryptocurrency in Singapore but there is now a legal framework for cryptocurrency trading.

US

- In the U.S., the open approach taken by the authorities has resulted in the trade in cryptocurrency being both **taxed and appropriately regulated**.

Approach for India

- While the approaches are specific to the countries' economic realities and **cannot be blindly implemented in India**
- In India, the absence of an existing legal classification of cryptocurrency should not be the impetus to prohibit its use.
- The government should use this as an opportunity to **allow private individuals the freedom to harness** a powerful new technology with appropriate regulatory standards.

11.A seesaw of science and pseudoscience

- Prime Minister Narendra Modi seems thoroughly modern. But he also appears to be steeped hopelessly in superstition.
- He promotes the exploration of the moon, orders the most sophisticated fighter jets, launches the first bullet train project, boasts about India being a vaccine ‘powerhouse’ that supplies vaccines to the world – all products of modern science.
- But he also simultaneously plumps for **pseudoscience**. He invokes **cosmic energy to drive out the SARS-CoV-2** by exhorting the public to beat gongs and blow conches at auspicious hours based on ancient **numerology**
- He does not pull up his Cabinet colleagues **when they launch a yoga guru’s concocted COVID-19 medicine**, drugs that have no clinical evidence of trials and have been condemned by the Indian Medical Association. Mr. Modi speaks glowingly of India’s scientific accomplishments in its mythic past and cites, for example, the elephant head transposed on Lord Ganesha as great strides in plastic surgery, long before the West invented it.

Cargo cult

- Nobel-winner physicist Richard Feynman coined the term ‘**cargo cult science**’ to describe all kinds of **pseudoscience** that passed off for science over the ages – ancient superstitions, black magic, voodoo, witch doctors, astrology, mind reading, ESP (extrasensory perception), expanded consciousness, aphrodisiacs made from rhino horns, and other debatable ideas.
- He spoke of a ‘Cargo Cult’ of people, the **South Sea islanders in the Pacific**, who, during the world war, had seen planes landing and delivering cargos.
- After the war, they wanted to receive similar gifts from the skies.
- “Cargo cult science” phrase was for research that mimicked science.
- Despite never seeming to yield verifiable results, it garnered public acceptance because it seemed to possess the semblance of rigorous methodology.

Traditional Vs Modern

- It can’t be denied that home remedies are often beneficial.
- If one has a bad cold, a concoction of crushed **black pepper** and turmeric boiled in milk will do wonders.
- A terrible bloated stomach can be **eased by buttermilk garnished** with garlic and ginger.
- **Corns in the feet can be managed without surgery** by applying fresh lime and wrapping the affected parts in a ripe banana peel.
- From **home remedies to Ayurveda**, there are many cures that work for illnesses.
- Alternative **medicines from other parts of the world**, including treatments from medicines used by **tribal communities**, have been useful and passed down from generations.
- But their **limitations have to be recognised** and acknowledged.

Modern science

- **Modern medicine**, an offshoot of science that questioned existing beliefs and practices, discovered the method of **experimentation** to find out whether medicines worked, and if they did not, it encouraged exploring new ideas. This was the beginning of the scientific age.
- Scientific progress has been possible only because the great men of science acknowledged their ignorance and were not afraid to question; each generation added to the fount of knowledge because they left the door to the unknown ajar.
- However, **pseudoscientists are a danger to society** because they are cocksure of their belief systems. They are **not comfortable with doubts and uncertainties**. It is alright to be not sure because certainty shuts all doors to corrections and blocks progress, which can be fatal for a civilisation.

Core values

- The Indian civilisation, from its known beginnings, has served as a quest for knowledge for people to explore the deep meaning of life and existence
- For us Indians, a study of **Upanishads is essential, if we are to preserve our national being and character**,” said Indian philosopher and former President **S. Radhakrishnan**. He added, **“There is much in our past that is degrading and deficient but there is also much that is life-giving and elevating. If the past is to serve as an inspiration for the future, we have to study it with discrimination and sympathy ... While the fundamental motives, the governing ideas which constitute the essential spirit of our culture are a part of our very being, they should receive changing expression according to the needs and conditions of our time.”**

12. In India, looking beyond the binary to a spectrum

- Last month, when the cases surrounding the question of same-sex marriages came up before the High Court of Delhi, the Union Government was found to be dithering.
- The Solicitor General of India made himself available only to request the court to have the matter adjourned on the ground that it was **not urgent**.
- Though the Union Government argued that the matter was not important in the context of the second wave of COVID-19 cases, it overlooked the basic notion that the plight of persons in same-sex and queer relationships looking after each other – without the legal protection of marital relationships – was exacerbated by the pandemic.
- **In any case, it is a matter of some concern that the Union Government does not find urgency in a matter of extending civil rights to a class of persons who have approached a constitutional court.**

International practices

- In **Australia, Same-Sex Relationships (Equal Treatment in Commonwealth Laws – General Law Reform) Act 2008** came to be enacted to provide provide equal entitlements for same-sex couples in matters of, inter alia, social security, employment and taxation. **Similarly, in England and Wales, the Marriage (Same Sex Couples) Act 2013** enabled same-sex couples to marry in civil ceremonies or with religious rites.
- More recently, in **2015, the Supreme Court of the United States** decided that the fundamental right to marry is guaranteed to same-sex couples

Courts and civil rights

- In India, marriages solemnised under personal laws such as the Hindu Marriage Act, 1955, Indian Christian Marriage Act, 1872, Muslim Personal Law (Shariat) Application Act, 1937 and so on.
- At present, though same-sex and queer marriages are not clearly recognised in India
- **Madurai Bench of the High Court of Madras** employed a beneficial and purposive interpretation holding that the **term 'bride' under the Hindu Marriage Act, 1955 includes transwomen and intersex persons** identifying as women. Therefore, a marriage solemnised between a male and a transwoman, both professing the Hindu religion, is deemed to be a valid marriage under the Act.
- Supreme Court of India in *Shafin Jahan vs Asokan K.M. and Others* AIR 2018 SC 1933 (Hadiya case), wherein the right to choose and marry a partner was considered to be a constitutionally guaranteed freedom. By doing so, the Supreme Court held that the “intimacies of marriage lie within a core zone of privacy, which is inviolable” and that “society has no role to play in determining our choice of partners”.
- The only logical interpretation from reading these cases together, it is apparent that any legal or statutory bar to same-sex and queer marriages must necessarily be held to be unconstitutional and specifically violative of Articles 14, 15 and 21 of the Constitution of India.
- No longer can the position of the **Union Government** that marriage is a bond between “a biological man and a biological woman” be tenable.

Expanding scope of marriage

- The domain of marriages, including religious marriages, cannot be immune to reform and review.
- **Self-respect marriages** were legalised in Tamil Nadu (and subsequently, in Puducherry) through amendments to the Hindu Marriage Act, 1955.
- Self-respect marriages, commonly conducted among those who are part of the Dravidian Movement, have done away with priests and religious symbols such as fire or saptapadi.
- Instead, solemnisation of self-respect marriages only requires an exchange of rings or garlands or tying of the mangalsutra.
- Such reform of the Hindu Marriage Act, 1955 to bring self-respect marriages under its very umbrella, is seen as a strong move towards **breaking caste-based** practices within the institution of marriage
- Similarly, understanding the needs of the LGBTQIA+ community today, the **law must now expand the institution of marriage** to include all gender and sexual identities.
- At least 29 countries in the world have legalised same-sex marriage.
- It is time that India thinks beyond the binary and reviews its existing legal architecture in order to legalise marriages irrespective of gender identity and sexual orientation.