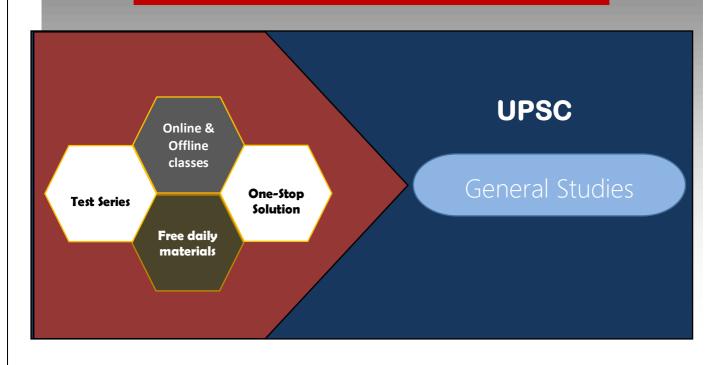# VISHNU
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GS 2 : Polity, Governance, International Relations

1. **How lack of public data on pandemic could harm us**

Questions are being asked about India's preparedness as the cases with the Omicron variant of the Coronavirus has been on the rise in the country.

Where does India stand?

[1] The Positives

-   **Addressing oxygen shortage**: The extreme shortages of oxygen that we saw barely six months ago will hopefully not be a feature of a third wave.
-   **Vaccinated population:** We have now vaccinated more than 50% of the adult population with both doses of vaccine, and approximately 85% have received one or two doses.
-   **Ramping up testing** to deal with a spike should not require an increase in capacity.
-   **More vaccine doses:** We have **more vaccine doses** than in May 2021 and the potential for oral antiviral therapy in the near future.

[2] The negatives

-   **Lack of data:** An urgent and important one is **the lack of publicly available data** on the pandemic from Government sources, particularly in regard to testing, but also in terms of being able to correlate disease severity with age, prior medical conditions, locations and other variables.
-   Data from the **Indian Council of Medical Research (ICMR)**, India's premier medical research agency, remains inaccessible.
-   The **National Centre for Disease Control (NCDC)** has not responded.
-   The CoWIN data contains valuable information but it is of little value for future planning and prediction unless it can be tied to testing data and clinical information at the level of individuals.
-   **ICMR data not correlated to CoWIN platform data:** The Indian Council of Medical Research holds data on every COVID-19 test conducted in India.
-   However, these data are not correlated to the vaccine data in the CoWIN platform.
-   **Data with States is inaccessible:** Data on hospitalisations, etc. are apparently available at the State level, but seem inaccessible.

What we can know from the data about pandemic

- **Infer the probability of reinfection:** If we knew that a person had tested positive on successive tests separated by, say four months or more, with a negative test in-between, that would suggest a reinfection.
- We could then infer the **probability of such a reinfection.**
- **Probability of vaccine breakthrough infection:** With information about testing and vaccination status, we could compute the **probability of a vaccine breakthrough** event.
- **To know the efficacy of single vaccine dose:** By checking to see whether the positive test happened after the first but before the second dose of vaccine, or after the second dose, the **relative efficacy of such single vaccine doses** at preventing disease could be derived.
- **Effect of the vaccine on disease severity**: By examining symptoms reported after a vaccine breakthrough event, we could understand the extent to which **vaccines reduce disease severity.**
- **Impact of new variant:** Add to this a layer of sequence information, and we could study the impact of new variants.

Role of the volunteer organisation

- The most trustworthy and granular data on cases in India have resulted from the remarkable and public-spirited work of a volunteer organisation, Covid19India.org.
- Their work has now been taken over by several other voluntary groups, all operating on the same broad principles of data accessibility: covid19bharat.org, incovid19.org and covid19tracker.in.

Way forward

- **Commitment towards data accessibility:** We need to stress on data availability because this is the one area where **a swift realignment is possible**.
- The more widely data are shared, the greater the likelihood of integration of the rapidly shifting scientific frontier with clinical practice.
- **Learning from the experience of South Africa:** With the advantages of a relatively high-quality surveillance system among low- and middle-income countries (LMIC) countries, bolstered by a **commitment towards transparency and data accessibility,** South Africa's rapid sharing allowed the world to **prepare swiftly for the appearance of the highly mutated Omicron variant.**
- It is clear that pre-emptive decisions on vaccination and other measures could be made faster and better if more integrated data were available.

Conclusion

Now, more than ever before is the time for us to urgently reassess our attitude towards data for public health purposes and the role of national health agencies in sharing data, generated with public funds, with scientists in India and across the world.

2. Right to be Forgotten

The Centre has informed the Delhi High Court that the Personal Data Protection Bill 2019 contains provisions related to the 'right to be forgotten'.

Right to be Forgotten

- 'Right to be forgotten' is a fairly new concept in India where an individual could seek to remove or delete online posts which may contain an embarrassing picture, video or news articles mentioning them.
- It comes under the right to privacy which has been held to be a fundamental right by the Supreme Court under Article 21.
- In 2017, the Right to Privacy was declared a fundamental right by the Supreme Court in its landmark verdict.

Why in news?

- The Personal Data Protection Bill 2019 contains provisions related to the doctrine of 'right to be forgotten'.
- It highlighted two judgments passed by the Orissa High Court and the Karnataka High Court where they have accepted the doctrine of the 'right to be forgotten' as an essential part of the 'right to privacy'.

Mention in PDP Bill

- The PDP bill aims to set out provisions meant for the protection of the personal data of individuals.
- Clause 20 under Chapter V of this bill titled "Rights of Data Principal" mentions the "Right to be Forgotten."
- It states that the "data principal (the person to whom the data is related) shall have the right to restrict or prevent the continuing disclosure of his personal data by a data fiduciary".

- A data fiduciary means any person, including the State, a company, any juristic entity, or any individual who alone or in conjunction with others determines the purpose and means of the processing of personal data.

Implications

- Under the Right to be forgotten, users can de-link, limit, delete or correct the disclosure of their personal information held by data fiduciaries.

Other similar provisions

- Section 69A of the IT Act does provide for removal of "certain unlawful information" from an intermediary platform.
- It primarily applies to 'national security and public order related issues' only.

3. WTO rules against India's Sugar Subsidies

A World Trade Organization panel ruled that India violated international trade rules when it offered excessive subsidies for the production and export of sugar and sugarcane.

What did WTO say?

- Under WTO rules, India's sugar subsidies are capped at a de minimis limit of 10% of the value of production.
- India's policies were inconsistent with WTO rules that govern the levels at which nations can subsidize domestic agricultural production.
- WTO has asked it to withdraw its prohibited subsidies under the Production Assistance, the Buffer Stock, and the Marketing and Transportation Schemes within 120 days.

What was the complaint against India?

Australia, Brazil, and Guatemala said India's domestic support and export subsidy measures appeared to be inconsistent with various articles against WTO's:

1. Agreement on Agriculture
2. Agreement on Subsidies and Countervailing Measures (SCM)
3. Article XVI (which concerns subsidies) of the General Agreement on Trade and Tariffs (GATT)

- **Domestic Support:** All three countries complained that India provides domestic support to sugarcane producers that exceed the de minimis level of 10% of the total value of sugarcane production.
- **Various subsidies:** They also raised the issue of India's alleged export subsidies, subsidies under the production assistance and buffer stock schemes, and the marketing and transportation scheme.
- **Notifying support:** Australia accused India of "failing" to notify its annual domestic support for sugarcane and sugar subsequent to 1995-96, and its export subsidies since 2009-10.

India's reply to WTO panel

- India rejected the panel's findings as "erroneous", "unreasoned", and "not supported by the WTO rules".
- It argued that the requirements of Article 3 of the SCM Agreement are not yet applicable to India.
- It has a phase-out period of 8 years to eliminate export subsidies under the agreement.
- India also argued that its mandatory minimum prices are not paid by the governments but by sugar mills, and hence do not constitute market price support.

GS 3 : Economy, Science and Technology,Environment

4. Extension for PM Krishi Sinchai Yojana

The Cabinet has given its approval to extend its umbrella scheme Pradhan Mantri Krishi Sinchayee Yojana for irrigation, water supply, groundwater and watershed development projects for another five years till 2026.

PM Krishi Sinchai Yojana

- The PMKSY was launched on 1st July, 2015 with the motto of "Har Khet Ko Paani".
- It is being implemented to expand cultivated area with assured irrigation, reduce wastage of water and improve water use efficiency.

The scheme has basically combined three active projects under various ministries which is as follows:

1. Accelerated Irrigation Benefit Program (Ministry of Water Resources)
2. Integrated Watershed Management Program (Ministry of Rural Development)
3. Farm Water Management Project of the National Mission on Sustainable Agriculture

Components of PMKSY

PMKSY seeks to provide a complete solution to farm level irrigation and assured irrigation for every farm

- It aims to integrate irrigation with the latest technological practices and cover more cultivable areas under assured irrigation
- Increase the implementation of water-saving technologies and precision irrigation which in other words can be said as More Crop Per Drop.
- PMKSY also targets the promotion of micro-irrigation in the form of sprinklers, rain-guns, drips, etc.

Advantages of Micro Irrigation

- Higher Profits
- Water Saving & Water Use Efficiency (WUE)
- Less Energy Costs
- Higher fertilizer-use efficiency (FUE)
- Reduced Labour Costs
- Reduce Soli Loss
- Marginal Solis & Water
- Efficient & Flexible
- Improved Crop Quality
- Higher Yields

Implementation of PMKSY

- Everything from planning and **execution of plans is regionalized** in PMKSY.
- **District Irrigation Plans (DIPs)** will identify the areas that require improved facilities in irrigation at block levels and district levels.
- **State Irrigation Plan** consolidates all the DIPs and it oversees the agricultural plans developed under the Rashtriya Krishi Vikas Yojana.

Funding pattern

- Funds will be allocated by the centre only if the state has prepared the district irrigation plans and the state irrigation plans.

- The state government's share under PMKSY is 25% and rest is borne by the centre, with an exception for north-eastern states where contribution by the state government is 10%.

5. The WTO's challenge to MSP is another frontier to cross

Amid the demand for legal backing to MSP, the question remains about whether India can provide a legal guarantee violating its international law obligations enshrined in the Agreement on Agriculture (AoA) of the World Trade Organization (WTO)?

Classification of subsidies under AoA: Trade distorting and non-trade distorting

- **The objective of AoA:** One of the central objectives of the AoA **is to cut trade-distorting domestic support.**
- **Three categories:** In this regard, the **domestic subsidies** are divided into three categories: 'green box', 'blue box' and 'amber box' measures.
- **Non-trade distorting: 'Green box'** subsidies (like income support to farmers de-coupled from production) and **'blue box'** subsidies (like direct payments under production limiting programmes subject to certain conditions) are considered non-trade distorting.
- Countries can provide **unlimited subsidies** under these two categories.
- **Trade-distorting subsidies:** Price support provided in the form of procurement of crops at MSP is classified as a trade-distorting subsidy and **falls under the 'amber box'** measures, which are subject to certain limits.

So, how do countries measure 'amber box' support?

- **Compute AMS:** To measure 'amber box' support, WTO member countries are required to compute **Aggregate Measurement of Support (AMS).**
- AMS is the total of **product-specific support** (price support to a particular crop) and **non-product-specific support** (fertilizer subsidy).

Understanding the de minimis limit

- Under Article 6.4(b) of the AoA, developing countries such as India are **allowed to provide a de minimis level of product and non-product domestic subsidy.**
- This de minimis limit is capped at 10% of the total value of production of the product, in case of **a product-specific subsidy;** and at 10% of the total value of a country's agricultural production, in case of **non-product subsidy.**

- Subsidies breaching the de minimis cap are trade-distorting.

Possibility of India overshooting the de minimis limit

- **Relation between MSP and AMS:** The procurement at MSP, after comparing it with the fixed external reference price (ERP) — an average price based on the **base years 1986-88** — has to be included in AMS.
- **Widening gap between ERP and MSP:** Since the fixed ERP has not been revised in the last several decades at the WTO, the difference between the MSP and fixed ERP has widened enormously due to inflation.
- According to the Centre for WTO Studies, India's ERP for rice, in 1986-88, was $262.51/tonne and the MSP was less than this.
- However, India's applied administered price for rice in 2015-16 stood at $323.06/tonne, much more than the 1986-88 ERP.
- Procuring all the 23 crops at MSP, as against the current practice of procuring largely rice and wheat, will result in India breaching the de minimis limit **making it vulnerable to a legal challenge at the WTO.**
- Even if the Government does not procure directly but mandates private parties to acquire at a price determined by the Government, as it happens in the case of sugarcane, **the de minimis limit of 10% applies.**

Way forward

- **Peace clause:** Although a permanent solution is nowhere in sight, the countries have agreed to a peace clause.
- The peace clause forbids bringing legal challenges against price support-based procurement for food security purposes even if it breaches the limit on domestic support.
- The peace clause is applicable only for programmes that were existing as of the date of the decision and are consistent with other requirements.
- India's procurement for rice and wheat, even if it violates the de minimis limit, will enjoy legal immunity.
- However, India will not be able to employ the peace clause to defend procuring those crops that are not part of the food security programme (such as cotton, groundnut, sunflower seed).
- **Move from MSP to income-based support:** Arguably, India can move away from price-based support in the form of MSP to income-based support, which **will not be trade-distorting under the AoA** provided the income support is not linked to production.
- **Supplement price-based support with income-based support:** Alternatively, one can supplement price-based support (keeping the de minimis limit in mind) with an income-based support policy.

Conclusion

The Government needs to engage with the farmers and create an affable environment to convince them of other effective policy interventions, beyond MSP, that are fiscally prudent and WTO compatible.

6. Growth of India's Defence Exports

India's defense exports have increased manifold from ₹1,521 crore in 2016-17 to 8,434.84 crore in 2020-21.

India's defense exports

- India has the strength of low-cost, high-quality production.
- The Government has set an ambitious target to achieve exports of about ₹35,000 crore ($5 billion) in aerospace and defense goods and services by 2025.
- The Defense Ministry has clarified that the names of the major defense items exported cannot be disclosed due to strategic reasons.
- To boost indigenous manufacturing, the govt had issued two "positive indigenization lists" consisting of 209 items that cannot be imported and can only be procured from domestic industry.

A significant achievement

- According to the latest report of the Swedish think tank Stockholm International Peace Research Institute (SIPRI), three Indian companies figure among the top 100 defence companies in the 2020 rankings.
- These include Hindustan Aeronautics Limited (HAL), Ordnance Factory Board and Bharat Electronics Ltd (BEL).

Yet India is a top importer

- While India remained among the top importers, it was also included in the Top 25 defence exporters.
- There was an overall drop in India's arms imports between 2011-15 and 2016-20, according to another SIPRI report of 2020.

Items that India export

- India has supplied different types of missile systems, LCA/helicopters, multi-purpose light transport aircraft, warships and patrol vessels etc.
- It is also willing to export artillery gun systems, tanks, radars, military vehicles, electronic warfare systems and other weapons systems to IOR nations.

Major partners: South Asian Countries

- Vietnam is procuring 12 Fast Attack Craft under a $100 million credit line announced by India.
- It is also interested in Advanced Light Helicopters and Akash surface-to-air missiles.
- HAL has pitched its helicopters and the Tejas LCA to several Southeast Asian and West Asian nations and is in the race to supply the LCA to Malaysia.
- Discussions on the sale of BrahMos supersonic cruise missiles, jointly developed by India and Russia, are at an advanced stage with some Southeast Asian nations.

Steps taken by the Centre to boost defence production

- **Licensing relaxation:** Measures announced to boost exports since 2014 include simplified defence industrial licensing, relaxation of export controls and grant of no-objection certificates.
- **Lines of Credit:** Specific incentives were introduced under the foreign trade policy and the Ministry of External Affairs has facilitated Lines of Credit for countries to import defence product.
- **Policy boost:** The Defence Ministry has also issued a draft Defence Production & Export Promotion Policy 2020.
- **Indigenization lists:** On the domestic front, to boost indigenous manufacturing, the Government had issued two "positive indigenization lists" consisting of 209 items that cannot be imported.
- **Budgetary allocation:** In addition, a percentage of the capital outlay of the defence budget has been reserved for procurement from domestic industry.

Issues retarding defence exports

- **Excess reliance on Public Sector:** India has four companies (Indian ordnance factories, Hindustan Aeronautics Limited (HAL), Bharat Electronics Limited (BEL) and Bharat Dynamics Limited (BDL)) among the top 100 biggest arms producers of the world.

- **Policy delays:** In the past few years, the government has approved over 200 defence acquisition worth Rs 4 trillion, but most are still in relatively early stages of processing.
- **Lack of Critical Technologies:** Poor design capability in critical technologies, inadequate investment in R&D and the inability to manufacture major subsystems and components hamper the indigenous manufacturing.
- **Long gestation:** The creation of a manufacturing base is capital and technology-intensive and has a long gestation period. By that time newer technologies make products outdated.
- **'Unease' in doing business:** An issue related to stringent labour laws, compliance burden and lack of skills, affects the development of indigenous manufacturing in defence.
- **Multiple jurisdictions:** Overlapping jurisdiction of the Ministry of Defence and Ministry of Industrial Promotion impair India's capability of defence manufacturing.
- **Lack of quality:** The higher indigenization in few cases is largely attributed to the low-end technology.
- **FDI Policy:** The earlier FDI limit of 49% was not enough to enthuse global manufacturing houses to set up bases in India.
- **R&D Lacunae:** A lip service to technology funding by making token allocations is an adequate commentary on our lack of seriousness in the area of Research and Development.
- **Lack of skills:** There is a lack of engineering and research capability in our institutions. It again leads us back to the need for a stronger industry-academia interface.

Way forward

- **Reducing import dependence:** India was the world's second-largest arms importer from 2014-18, ceding the long-held tag as the largest importer to Saudi Arabia, says 2019 SIPRI report.
- **Security Imperative:** Indigenization in defence is critical to national security also. It keeps intact the technological expertise and encourages spin-off technologies and innovation that often stem from it.
- **Economic boost:** Indigenization in defence can help create a large industry which also includes small manufacturers.
- **Employment generation:** Defence manufacturing will lead to the generation of satellites industries that in turn will pave the way for a generation of employment opportunities.

<div style="text-align:center">THE INDIAN EXPRESS</div>

GS 2 : Polity, Governance, International Relations

1. Omicron slow to infect the lungs: Hong Kong study

According to the study by researchers from the LKS Faculty of Medicine at the University of Hong Kong, the Omicron variant of SARS-CoV-2 infects and multiplies faster than the Delta variant and original SARS-CoV-2 in the human bronchus.

- The study may explain why it may transmit faster between people than previous variants.

Key findings of the study

- Omicron does not easily infect the lower lungs and this potentially explains why instances of severe disease are lower in cases involving Omicron.
- Omicron replicated around 70 times higher than the Delta variant and the original SARS-CoV-2 virus over 24 hours.
- In contrast, the Omicron variant replicated less efficiently (more than 10 times lower) in the lung tissue than the original SARS-CoV-2 virus.
- The severity of disease is not determined only by virus replication but also by the host immune response, which may lead to dysregulation of the innate immune system.
- By infecting many more people, a very infectious virus may cause more severe disease and death even though the virus itself may be less pathogenic.

2. Vanniyar quota law

The Supreme Court has held that admissions to higher education institutions and appointments to Tamil Nadu's government jobs made this year under the Vanniyar quota would not be disturbed.

- However, SC has barred fresh appointments and admissions until February 15 next year.

What is Vanniyar Movement?

- Vanniyars are one of the largest and most consolidated backward communities in Tamil Nadu.
- They had raised massive protests in the mid-1980s demanding 20% reservation in the state, and 2% in central services.
- During agitation from September 17 to 23, 1987, many protesters were killed.
- Split of OBC quota: In 1989, the OBC quota was split into two: Backward Castes and Most Backward Castes.
- Vanniyars were categorised among the MBCs with 107 other communities, with 20% reservation.
- Three decades later, the state government passed a Bill, and the current government has implemented it with a Government Order ensuring 10.5% reservation for Vanniyars within the 20% MBC quota.

3. Samudrayaan Project

Under the Deep Ocean Mission launched by the Government of India, a manned scientific submersible has been proposed to be developed for **deep ocean exploration and mining of rare minerals**. The project is named as Samudrayaan.

- National Institute of Ocean Technology (NIOT), an autonomous Institute under the Ministry of Earth Sciences, had developed and tested a 'personnel sphere' for a manned submersible system for 500 metre water depth rating.
- Personnel Sphere of 2.1m diameter to be used as a crew module up to 500 m water depth has been developed using mild steel and tested up to 600 m water depth in the Bay of Bengal using the research Vessel Sagar Nidhi during October, 2021.
- One Titanium alloy personnel sphere for manned submersible system for 6000 metre water depth rating, is under development

4. Legal Age of Marriage

The Union Cabinet has raised the legal age of marriage for girls to 21 on the recommendations of the four-member task force led by former Samata Party chief Jaya Jaitly.

What is the minimum age of marriage?

- **Personal laws that govern marriage** and other personal practices for communities prescribe certain criteria for marriage, including age of the bride and groom.
- For example, Section 5(iii) of The Hindu Marriage Act, 1955, sets a minimum age of 18 for the bride and 21 for the groom. This is the same for Christians under the Indian Christian Marriage Act, 1872 and the Special Marriage Act.
- For Muslims, the criteria is attaining puberty, which is assumed when the bride or groom turns 15.

Why is there a minimum age?

- Essentially to **outlaw child marriage.**
- This is done through special legislation such as the Prohibition of Child Marriage Act, 2006 and the Protection of Children from Sexual Offences Act, 2012.
- Under the Child Marriage Prevention Act, any marriage below the prescribed age is illegal and the perpetrators of a forced child marriage can be punished.

What happens to such marriages once detected?

- Child marriages are **illegal but not void**.
- It is voidable at the option of the minor party. This means the marriage can be declared void by a court only if the minor party petitions the court.
- This flexibility is kept to ensure that the rights of the minor, especially the girl, is not taken away in marital homes later on.
- However, if a court finds a minor was coerced into marriage by parents or guardians, the provisions of the **Juvenile Justice (Care and Protection of Children) Act** come into effect to keep the custody of the minor until he or she attains majority and can make a decision on the marriage.

What was the rationale behind increasing legal age?

- The task force was set up by the WCD Ministry to re-examine age of marriage and its correlation to health and social indices such as infant mortality, maternal mortality, and nutrition levels among mothers and children.
- Committee has said the recommendation is **not based on the rationale of population control** (India's total fertility rate is already declining) but more with women's empowerment and **gender parity.**
- The committee has said access to education and livelihood must be enhanced simultaneously for the law to be effective.

What laws will have to be changed to raise the minimum age of marriage?

- First, the age limit in the Prohibition of Child Marriage Act will have to be changed.
- The government had indicated this will be followed by necessary changes in personal law. The Hindu Marriage Act, the Indian Christian Marriage Act and the Special Marriage Act will also have to be change consequently.
- However, changes in the Muslim law could raise significant legal issues.

The opposition

Experts have been opposing a raised age of marriage on two broad counts.

- First, the law to prevent child marriages does not work. While child marriage has declined, it has been marginal: from 27% in 2015-16 to 23% in 2019-20, according to National Family Health Survey (NFHS) 5. The decrease was, however, dramatic in NFHS 4, from 47% in NFHS 3.
- The marriage age at 18 was set in 1978, but child marriage started to decline only in the 1990s, when the government stressed **primary education of the girl child and took measures to reduce poverty.**
  - Often the girl child drops out after primary school simply because she has no access to higher education, and is then married off.
  - According to the State of the World Report 2020 by UNFPA, in India, 51% of young women with no education and 47% of those with only a primary education had married by age 18, compared to 29% of young women with a secondary education and 4% with post-secondary education.
- The second objection being raised is the **criminalisation of a large number of marriages** that will take place once the law comes into effect. While 23% of marriages involve brides under age 18, far more marriages take place under age 21.
  - The median age at first marriage for women aged 20-49 increased to 19 years in 2015-16 from 17.2 years in 2005-06, but remained under 21 years.

What are these legal issues?

- The Prohibition of Child Marriage Act does not contain any provision that explicitly says the law would override any other laws on the issue. And there is an obvious discrepancy in the letter of the law between the Prohibition of Child Marriage Act and Muslim law on the minimum age of marriage.
- For example, although the marriage of a 16-year-old girl deemed to have attained puberty is not considered invalid in Muslim law, it would be a child marriage under the Prohibition of Child Marriage Act.

- Additionally, the Supreme Court, in a landmark 2017 verdict, has held that in case of a minor wife, the law recognises **marital rape.** Husbands of minor women, as opposed to husbands of adult women, cannot enjoy the blanket immunity that the Indian Penal Code provides in Exception 2 to Section 375 against charges of marital rape.

Can Muslim law be amended too?

- Muslim law is a mere **codification of Shariah law.**
- In **Shayara Bano v Union of India**, the case in which the Supreme Court declared the practice of instant triple talaq as unconstitutional, one of the key questions was whether the Supreme Court could quash a religious or divine law.
- The court said all personal laws will have to fall under the constitutional framework and will be **subject to public order, morality and health.**

- Experts suggest the minimum age of marriage can be justified under public health**.** However, there are several differing verdicts from high courts on this issue.

  -
    o In February this year, the Punjab and Haryana High Court granted protection to a Muslim couple (a 17-year-old girl married to a 36-year-old man), holding that theirs was a legal marriage under personal law. The HC examined provisions of the Prohibition of Child Marriage Act but held that since the special law does not override personal laws, Muslim law will prevail.
    o In other cases, the Karnataka and Gujarat High Courts have held that the 2006 special law would override personal laws and have sent the minor girl to a care facility.

Which sections of society will be most affected due to rise of legal marriage age?

- Experts noted that 70% of early marriages take place in **deprived communities such as SCs and STs,** and said the law will simply push these marriages underground instead of preventing them.
- According to NFHS 4 (2015-16), the median age at first marriage for women aged 25-49 is higher among the social categories of Others (19.5 years), OBC (18.5), ST (18.4) and SC (18.1).
- The experts said **rural women will be affected more than urban women**. According to NFHS 4, the median age at first marriage (age 25-49) for urban women (19.8) is 1.7 years more than that for rural women (18.1).

GS 3 : Economy, Science and Technology,Environment

5. Reimagining Self-Help Groups (SHGs)

SHGs were created for providing financial access and gradually metamorphosed into the world's largest microfinance program, where multiple agencies, NGOs, governments, banks work in unison.

- The first SHG was linked by Bangarpet Branch of Vysya Bank in Kolar district, Karnataka.
- RBI made this unconventional idea of linking informal women groups to formal banks, possible.

The salient features of a good SHG are

- Homogeneity
- Regular meetings
- Savings
- Book-keeping
- Accessing bank credit (usually 4-times their savings)
- Inter-lending and on-time repayment.

Progress of SHGs

- SHGs moved a long way, from the policy intention in 1992, to link 500 SHGs to banks. Now, there are about 1.2 crore SHGs.
- Their savings deposit is about, ₹37,500 crore and outstanding credit ₹1,03,000 crore.
- But, average loan outstanding per SHG at about ₹1.80 lakh (₹15,000-per member-considering 12 women per SHG) and percentage of non-credit linked SHGs at about 50 per cent has almost remained same.
- Considerable investments in community mobilisation through SHGs and capacity building resulted in **social capital**, manifested as **women empowerment** and **credit-discipline**.

Linkage between Microfinance Institutions (MFIs) and SHGs

- MFIs began operations in early 2000s, initially in southern India. MFIs include, NBFC-MFIs, NBFCs, SFBs, banks and others which provide micro loans. About 200 such entities exist.

- They currently have about 10 crore loan accounts with loan outstanding of about ₹2,47,000 crore. Per member loan is about ₹40,000
- SHGs cater to the poorest and mostly rural clients and MFIs usually peri-urban.
- SHGs lend to members taking loans from banks. MFIs provide loans to clients through **Joint Liability Groups (JLG)**, comprising of about five members. They are jointly and severally responsible for loan repayment.
- Clients of SHGs and MFIs are **predominantly women.**
- The process of Joint Liability Group formation and loaning is not as intensive, when compared to SHGs.
- MFIs operate in the social sector but are profit oriented whereas SHGs share profits from group lending amongst members.
- The NPA level, in both these programmes, is almost the same at 4-5 per cent.
- Interestingly about 70 per cent of the current loan portfolios of MFIs is in south and eastern region where SHG movement is strong because of State patronage. The outstanding loans to SHGs is about 50 per cent in this region.
- MFIs are cost effective vehicle for providing loans as compared to commercial banks which have an advantage in providing bulk loans

Way Forward

- Many rural **bank branches can also provide micro loans** when/if they strategise to increase business by providing loans to their existing eligible clients.
- Further, if banks use the **credit-card model** of fixing loan limits, contours of micro credit will be changed for good.
- If, NGOs and Corporate Banking Correspondents, transform themselves into an intermediary; hand holding SHGs, providing financial literacy, guiding them with micro-enterprises, ensuring end use of credit, marketing assistance and repayment, livelihoods will improve.
- If first loss default guarantees to banks can also be provided it would be wonderful.

6. India's digital health mission

The 2017 National Health Policy's mandate was to bring India closer to achieving universal health coverage.

- This policy envisioned healthcare access of the highest level to all age groups, and the use of a preventive approach for treating diseases. In its

implementation, the Ministry of Health and Family Welfare (MoHFW) acknowledged that to achieve these aims, India needs to digitise healthcare.

- Commonly referred to as the **Ayushman Bharat Digital Health Mission (ABDM)**, its establishment was recommended by India's National Digital Health Blueprint under a committee set up by the MoHFW.

The growing need to introduce electronic health records

- In the current form, ABDM lays little emphasis on the use of this health data by the public health research community.
- Electronic health records are most useful to public health research. In the absence of electronic health records, data for public health research studies is usually collected by public health agencies or research institutes as part of an ongoing or new study.
- This requires time to plan the study, recruit participants, and train field staff before the actual data collection.
- To facilitate longitudinal analysis, such data collection also needs to be carried out at pre-decided future intervals that could be months or years apart.
- The limitations to this include **high cost and lengthy durations of time**. Having access to pre-collected data will address both these limitations. Most importantly, data from the health ID is likely to be more complete as compared to most hospital records in India, which comprise of paper prescriptions or manual register entries.
- The **COVID-19 pandemic** has made it clear that to obtain evidence-based findings real-world data needs to be available. While there is no doubt that with prior health records, a doctor or physician can flag the severity of COVID-19 for someone who has a history of diabetes or blood pressure, the reverse of this is also true.
- Using medical history and disease end-point data, **unknown risk factors of the disease can also be identified.** This would require that electronic health records be made available and supplemented with additional information of the patient such as lifestyle.
- For western countries, electronic health records are maintained at the hospital level, and they commonly store responses to basic lifestyle questions as part of the patient's health record.

Unique Health ID

One of ABDM's objectives is to develop a repository of verified hospitals, clinics, doctors, physicians, nurses, and pharmacies. As claimed by the ABDM, this will help filter out all the unscrupulous medical entities to avoid fraud. The ABDM relies on the premise of **creating a unique health ID (identifier)** for Indians.

The idea is to allow an individual **to integrate all their health records** onto one platform. Subject to the consent of the participating individual/patient, their health data will be made available for use by the treating doctor or physician, and more parties such as health insurance companies.

This health ID is different from the Aadhaar ID; multiple health IDs can be generated for the same individual.

- ABDM claims that this will allow individuals to keep **certain medical records private** such as those relating to sexual history.
- Armed with a retrospective medical history of the patient, a physician can make better diagnoses. This will improve quality of treatment and overall healthcare, and bring down financial costs for the patient.
- Subject to the consent of the participating individual/patient, their health data will be made available for use by the treating doctor or physician, and more parties such as health insurance companies.

Technological Infrastructure

The involved digital infrastructure for storage and accessing this data will be built on the **National Health Stack.**

- The stack is a collection of pre-written code (or commonly referred to as APIs) specific to interface with the ABDM system.
- This will be one platform where those interested (and approved) file for insurance claims, can perform analytics in addition to storing individual health data and hosting the repository of various medical agencies.
- This health stack will also integrate with payment gateways.

Currently, **around 14 crore users have enrolled for a health ID** with the ABDM and the programme has been piloted for a year in six union territories in India.

What are the challenges?

Although ABDM is visionary and can be the much-needed digital intervention to improve healthcare access in India, its implementation and overall objectives need more thought. There are some issues that can be foreseen. These include patient-physician trust, technological challenges, and data protection.

- **Public Trust: I**n instances where remote or specialised consultation is being sought, a new physician or a doctor will need to gain the patient's trust for obtaining consent of the patient to share their electronic health records.
- **Internet Connectivity Problems:** The public sector IT systems lack faster internet speed, robust websites, and lags in providing a seamless user

experience. For a country where rates of computer illiteracy are high, interfaces need to be kept simple and should be more user friendly.

- **Training Personnel in Rural Areas**: There is the issue of citizens living in rural areas accessing such a facility digitally. These citizens would need to rely on their treating doctor or physician, who is local to them, to register them for the health ID.
  - o This treating doctor or physician would also need to be trained in dealing with patients' personal details and, most importantly, the fact that enrollment into the ABDM Health ID is voluntary, and not mandatory.
  - o Explanation on how the system works and the involved intricacies would also need to be communicated to allow citizens, especially in rural areas, to make an informed decision.
- **Data protection:** In the absence of data protection laws, both storage of one's health data and its use will need to be governed by well laid down rules, even if there is consent by the individual/patient.
  - o Currently, there is a Data Empowerment and Protection Architecture (DEPA) drafted by the NITI Aayog in 2020 to govern access of such data by public and private agencies.
  - o For ABDM, the DEPA entails that if the individual/patient provides consent then their data can be shared to the agency requesting access.
  - o Granting of 'consent' to a doctor or any other involved agency such as insurance companies should not mean that the data can be used for any other purpose than what the consent was granted for or be stored by them locally.
- **Informed Consent:** ABDM claims that the individual is at liberty to deny consent in sharing their data; however, this may lead to some penalisation of the individuals who do not provide consent. For example, an insurance company may incentivise those who consent to share their electronic health data and make processes more rigid for those who do not.
  - o Additionally, in some cases, consent may be sought from the organisation and not the individual. This would bypass individual consent for each request and needs another set of data governing rules, which are well-advertised and explained to the individual providing consent.

7. IMD has predicted a cold wave in Northwest India

The India Meteorological Department (IMD) has predicted a cold wave in parts of Punjab, Haryana, Chandigarh, Gujarat, Rajasthan, and Uttar Pradesh over the next few days.

Conditions for declaring cold waves:

The IMD records a cold wave when the **minimum temperature is equal to or less than 10 degrees Celsius at a weather station in the plains and is 4.5 degrees to 6.4 degrees** below the normal temperature for that period.

For hilly regions, a cold wave is declared when the minimum temperature is less than or equal to 0 degrees Celsius and the minimum temperature is 4.5 degrees to 6.4 degrees below the normal.

Reasons for the Cold wave conditions in India:

- **Impact of Western disturbance:** Cold wave conditions form due to **lack of western disturbances**. Western disturbances create precipitation and bring down day temperatures, but night temperatures remain steady.
- **Snowfall in the upper Himalayas: This creates a wind chill factor for the northern states of India**
- **Downward subsidence of cold air: Subsiding air (from the upper Himalayas) further cools down creating low-temperature conditions over North India for a longer period.**
- **La Nina is known to favor cold waves in North India.**
  - It increases the **severity of cold conditions, also the** frequency and area covered under the grip of a cold wave become larger e.g. winters of October 2020 were colder than usual (**2 degrees Celsius, the lowest since 1962**) due to the impact of **La Nina in the pacific.**

Impact of cold wave conditions:

- **Impact on agriculture in North India**: It creates a wider gap between **day and night temperatures,** this creates erratic winter conditions impacting agricultural practices in the Rabi season.
- **Impact on Cash crops:** It might also affect the **productivity of cash crops** such as coffee (Coffee growth is extremely sensitive to variations in temperatures), which grows mainly in south India.
- **Impact on Human life:** Cold wave conditions increase the risk of contracting flu, and could also lead to symptoms like nosebleeds and runny nose. It was also said to be responsible for the 2nd wave of COVID 19 in many parts of North India.

Prelims Practice Questions

1. Rustom II, developed by the DRDO is

a. A hypersonic missile system
b. An unmanned aerial vehicle or Drone
c. A tank suitable for high altitude warfare
d. A sonar system for identifying underwater mineral nodules

Answer: b

Explanation:

- Rustom II is an unmanned aerial vehicle or Drone.
- It is a Medium Altitude Long Endurance unmanned air vehicle (UAV) being developed by Defence Research and Development Organisation for the three services, Indian Army, Indian Navy and the Indian Air Force of the Indian Armed Forces.

2. Which of the following has recently become Asia's first festival to achieve recognition as UNESCO Intangible Cultural Heritage (ICH) of Humanity?

A Durga Puja
B Chhat Puja
C Thaipusam Festival
D Hornbill Festival

Answer : A

Explanation

- Recently, **Durga Puja** in Kolkata has been inscribed on the UNESCO's Representative List of the Intangible Cultural Heritage (ICH) of Humanity.
  - It is the **first festival in Asia to achieve recognition as UNESCO ICH of Humanity.**
- Durga Puja is a five-day festival which begins on the fifth night of the nine-day Navratri festival and ends on the tenth day, which is Dashami.

- o During this time, people collectively worship and invoke Goddess Durga, who is regarded as the feminine energy of the cosmos, also known as 'Shakti'.
- o It is one of the largest cultural carnivals and street art festivals of the country.
  - ▪ **Hence, option A is correct.**

3. Consider the following traditions and choose the ones which have been recognized by UNESCO as part of India's intangible cultural heritage:

1. Yoga
2. Kumbh Mela
3. Tradition of Vedic chanting
4. Nowruz
5. Durga Puja

Choose the correct statements:

a. 1,2 & 5 only
b. 2, 4 & 5 only
c. 1 & 3 only
d. All of the above

Answer: d

- The following have been recognized as part of India's intangible cultural heritage by UNESCO:
  - o Kutiyattam
  - o Vedic chanting
  - o Ramlila
  - o Ramman
  - o Chhau dance
  - o Kalbelia dance
  - o Mudiyettu
  - o Durga puja in Kolkata
  - o Buddhist chanting in Ladakh
  - o Sankirtana
  - o Traditional craft of thateras
  - o Nawrouz

o Kumbh mela

4. Consider the following statements:

1. Goa is geographically separated from the Deccan highlands by the Western Ghats.
2. Cotigao Wildlife Sanctuary is located in Goa.
3. Konkani, the official language of Goa, is the Eight Schedule language.

Which of the statements given above is/are correct?

A 1 and 2 only
B 2 and 3 only
C 1 only
D 1, 2 and 3

Answer : D

Explanation

- Goa is located on the southwestern coast of India within the region known as the Konkan, and **geographically separated from the Deccan highlands by the Western Ghats. Hence, statement 1 is correct.**
- **Official Language** of Goa is **Konkani.**
  - Konkani is one of the 22 languages from the Eight Schedule. **Hence, statement 3 is correct.**
  - It was added in the list along with Manipuri and Nepali by the 71st Amendment Act of 1992.
- It is surrounded by Maharashtra to the north and Karnataka to the east and south, with the Arabian Sea forming its western coast.
- **Wildlife Sanctuaries and National Parks:**
  - Dr Salim Ali Bird Sanctuary
  - Mhadei Wildlife Sanctuary
  - Netravali Wildlife Sanctuary
  - **Cotigao Wildlife Sanctuary. Hence, statement 2 is correct.**
  - Bhagwan Mahaveer Sanctuary
  - Mollem National Park

5. The famous Sri Ramna Kali temple is in which of the following nations?

a. Pakistan

b. Nepal
c. Bangladesh
d. Cambodia

Answer: c

Explanation:

- Sri Ramna Kali temple is situated in Bangaldesh.
- This temple was destroyed by the Pakistani forces during the 1971 war. In a symbolic gesture, the Indian President will inaugurate the refurbished temple.

6. Consider the following statements:

1. Article 23 of the UN Charter concerns the composition of the UN Security Council (UNSC).
2. The non-permanent members of the UNSC are elected by a two-thirds majority.

Which of the statements given above is/are correct?

A 1 only
B 2 only
C Both 1 and 2
D None

Answer : C

Explanation

- The UNs Charter established six main organs of the United Nations, including the United Nations Security Council (UNSC). **Article 23 of the UN Charter** concerns the **composition of the UNSC. Hence, statement 1 is correct.**
  - The UNSC has been given primary responsibility for maintaining international peace and security to the Security Council, which may meet whenever peace is threatened.
- The UNSC is composed of 15 members, 5 permanent and 10 non-permanent.
  - The **ten non-permanent members are elected for two-year terms** by the UN General Assembly.

o As stipulated in rule 144 of the rules of procedure, a retiring member is not eligible for immediate re-election.

o In accordance with rule 92 of the rules of procedure, the **election is held by secret ballot and there are no nominations**. Under rule 83 of the rules of procedure, the non-permanent members of the Security Council are **elected by a two-thirds majority. Hence, statement 2 correct.**

Mains Practice Questions

1. Climate change, overexploitation, and policy measures have combinedly turned India into a water-stressed economy. Discuss.

Approach

- Start the answer by briefly discussing about the condition of water scarcity in India.
- Discuss the reasons for water stress in India.
- Suggest some measures to address the problem of water scarcity.
- Conclude Suitably.

2. Hydrogen is being dubbed as the alternative fuel. However, there are many problems associated with the leveraging of hydrogen technology. Discuss.

Approach

- Start the answer by briefly discussing the context of using hydrogen as an alternate fuel.
- Discuss the pros and cons of hydrogen as a source of energy.
- Conclude suitably.