

WEEKLY CURRENT AFFAIRS ARTICLES

SECOND WEEK OF AUGUST 2022

GS 2 - Conservation of Resources

TRADITIONAL WATER HARVESTING TECHNIQUES

Why in the News ?

India uses the underground water more than the USA and China Combined.

1. Background

- Water harvesting may be defined as deliberate collection and storage of water that runs off on natural or manmade catchment areas. Catchment may include rooftops, compounds, rocky surface or hill slopes or artificially prepared impervious/semi-pervious land surface.
- The practice of harvesting rainwater dates to Vedic times when the need to create water sources that would remain both clean and provide plentifully was recognised.
- Dholavira in Kutch, Gujarat laid out on a slope between two storm water channels is an example of sophisticated water engineering. Sage Narada, in Mahabharata advises Yudhishtira to excavate large lakes to store water and make cultivation independent of rainwater.

- Dams built of stone rubble were found in Baluchistan and Kutch dating back to 2000 BC. A refined water harvesting system of 1 st century BC was found at Sringaverapura near Prayagraj. It contained floodwaters of River Ganga in a fully brick-lined tank.
- In South India, great Karikala Chola built a Grand Anicut or kallonai across the river Cauvery to divert water for irrigation in 2 nd century AD.
- In Central India, King Bhoja of Bhopal built one of the largest artificial lakes, measuring approximately 65,000 acres fed by streams and springs in 11 century.
- In North India, poet, and historian Kalhana in his 12th century chronicle Rajatarangini describes a well maintained irrigation system in Kashmir. In arid and semi-arid regions, streams were more seasonal, and therefore the diversion channels first led the water to a storage structure like a tank. Deep wells were dug in the beds of tanks and rivers, both to serve as a source of good water when the water receded and also to recharge the groundwater when they were fully submerged.

2. Techniques undertaken by North East India

- **Apatani** – It is named after the Apatani tribes of the lower Subansiri district in Arunachal Pradesh. Apatani is a wet rice cultivation cum fish farming system practised in elevated hilly regions and gentle sloping valleys of Northeast India. Apatani can tap the water of small streams and springs in these high rainfall hilly regions through their temporary walls. These walls act as barriers and can divert the flow of water towards terraced and valley lands.
- **Zabo** - Zabo literally means 'impounding run-off'. It is a method of catching rainwater from running off the mountains practised in Nagaland.
- **Cheo-ozilhi** - Angami tribe of Nagaland practices this system where a long channel carries the river water splitting into many branches, and water is often diverted to the terraces through bamboo pipes. The channel is called Cheo-ozilhi. Ozilhi means water and Cheo was the person responsible for the laying of this long channel with its numerous branches maintained and cleared each year by the local community.
- **Dongs or Ponds** - Dongs are ponds constructed by the Bodo tribes of Assam in Brahmaputra valley to harvest water for irrigation. Water was lifted from the ponds and distributed into the fields by an instrument called lahoni. The ponds were individually owned and there was no community involvement.
- **Garh and Dara** - In Assam, a Garh is built to channelise river water to the agricultural field. A Garh is like a big nala, where both sides of the nala have big and long embankments and the middle side is left open to water flow. In the paddy field, the whole area is divided into small pieces in square size, creating small embankments, called Dara, where rainwater is stored for cultivation
- **Bamboo Pipes** - Bamboo pipes are used to divert water of springs on the hilltops to the lower regions by gravity for irrigation. Bamboos of varying diameters are used for laying the channels. In Meghalaya they do it for black pepper cultivation.

3.Traditional Techniques of Indo–Gangetic plain

- **Ahar-pyne** - It is a traditional floodwater harvesting system prevalent in Bihar. Ideal terrain for Ahar-pyne should have an evident slope, sandy soil, low groundwater level and flood during monsoon. The Ahar-pyne system received a deathblow under the 19th century British colonial regime. In 1949, a Flood Advisory Committee investigating continuous floods in Bihar's Gaya district concluded that "the fundamental reason for recurrence of floods was the destruction of the old irrigational system in the district.
- **Bengal's Inundation Channel** – Flood Water entered the fields through the inundation canals, carrying not only rich silt but also fish, which swam through these canals into the lakes and tanks to feed on the larva of mosquitoes. This helped to check malaria in this region.

- Unfortunately, during the Afghan-Maratha war in the 18th century and the subsequent British conquest of India, this irrigation system was neglected, and was never revived.
- **Jampoia or Dungs-** Dungs or Jampoia are small irrigation channels linking rice fields to streams in the Jalpaiguri district of West Bengal.

4. Water conservation technique of Techniques of Rajasthan Gujarat and Thar region

- The natural undulations provide for creation of wells and lakes which are innumerable in Jodhpur and Udaipur.
- There are small (talai), medium (talab) and large (sagar) lakes. Pichola, Fatehsagar and Udaisagar are Udaipur's main lakes.
- The Chandela kings (between 9th to 13th centuries) in Central India established a network of several hundred tankas that ensured a satisfactory level of groundwater. Tankas were constructed by stopping the flow of a nullah or a rivulet running between two hills with a massive earthen embankment. The Bundela kings who came later used lime and mortar masonry.
- The Great Thar Desert receives very little rainfall. Traditionally, the rainwater was captured and stored in ponds and underground tanks. For example, tarais (reservoirs) were built in the valley between sand dunes by constructing bunds at the two ends. When it rained, the rainwater was collected in the reservoir. The tarais dried up in a few months owing to the highly porous soil. But the region around it remained wet and moist. Wells were usually dug close to a tarai.
- **Tankas/Tanks** - Popular in Bikaner, Tanka is a round or rectangular

underground room in a house that functions as a water tank. Rainwater from the roof or terrace is directed towards an opening in the floor that leads to the Tanka. Rainwater is collected in these circular holes, lined with fine polished lime, made in the ground. Tankas are often beautifully decorated with tiles to keep the water cool. The water was used only for drinking purpose. In contrast, tanks (sagar/heel) are generally constructed with large walls on four sides and an almost impermeable floor, with enormous water holding capacity. These are the oldest source of water for irrigation. Most of them are small reservoirs with earthen walls, used for storing water diverted from a stream or run off.

- **Kunds or Kundis** - In western arid areas of Rajasthan, kunds are water-harvesting structures with a saucer shaped catchment area that gently slopes towards the centre where the well is situated. A wire mesh across water-inlets prevents debris from falling into the well pit whose sides are generally covered with lime and ash. Most pits have a dome-shaped cover or a lid to protect the water. Kunds are constructed where the groundwater availability is limited and salinity is moderate to high. Locally available material like pond silt, charcoal ash and small gravels are used to make catchment areas of the Kunds.
- **Kuis or Beris** - Dug mostly in western Rajasthan, the Kuis are 10-12 metre deep pits in the vicinity of tankas to collect leaking or oozing water. When 6 to 10 Kuis are constructed together, the entire system is then called the Par system. Rainwater harvested through such a system is called Patali Paani. The mouth of the pit is usually made

very narrow which reduces the evaporation of the stored water. The pit gets wider as it gets deeper, so that water can seep into a large surface area. This water is used sparingly, as a last resource in crisis situations.

- **Khadins** - The Khadin system is a runoff agricultural system, in which, the runoff water from the high catchment area is stored with the help of a Khadin bund where it is impounded during the monsoon season. This water is then used for irrigation. The Khadin soil remains moist for a long period because of water storage and chemical weathering, decomposition along with the activities of the microbes, which eventually raise the organic matter and other nutrient content of the soil. Khadin have functioned efficiently for centuries maintaining the soil fertility. The Paliwal Brahmins of Jaisalmer are said to be the pioneers of this technique in the 15th century. This system has great similarity with the irrigation methods of the people of Mesopotamia around 4500 BC.
- **Nadis** - A nadi is the local name of a village pond used for storing rainwater from the adjoining natural catchment areas. These were very common in Jodhpur. Because of poor maintenance and negligence, destruction of catchment areas and unplanned urbanisation, most of the nadis have been severely polluted.
- **Talabs** - It is a water harvesting structure constructed in valleys and natural depressions. Some talabs have wells in their beds. Such well-decked talabs are called beris. The existing oldest talab in Rajasthan is Ranisar(1490 AD).
- **Virda** - Virdas are shallow holes made in the sands of dry riverbeds and lakes

for collecting drinking water. They are found all over the Banni grasslands, a part of the great Rann of Kutch in Gujarat. First a depression or heel is excavated up to depth of 2 to 5 meter depending on the type of soil and level of salinity. This helps in removing the salinity embedded in the topsoil and non-permeable clay. Such a dug area looks like a small pond. The most important structure in this whole water system is Virda or dug well. Within a jheel, 10 to 20 wells of approximately 1 to 1.5 metre of diameter and 3 to 5 metres of depth are dug. These dug wells are framed from inside in square form with wooden trunks to support them. Further on the inner side of these trunks, the locally available grasses mixed with local soil are filled very thickly and they work as a filter as well as fill the macro pores. The upper portion of these dug wells is plastered with the clay. In Virdas, the sweet freshwater remains in the upper layer from which the water is collected, and the saline water remains below the freshwater zone because of its higher density. The Maldharis (local nomadic people) first established these unique structures in the Rann of Kutch.

- **Naada / Bandha** - Nada / band- has are found in the Mewar region of Rajasthan. It is a stone check dam that is constructed across a stream to capture monsoon runoff on a stretch of land. Because of submergence in water, the land becomes fertile as silt deposits on it and the soil retains substantial amount of nutrients.
- **Johads** - Johads are small earthen check dams that store rainwater. They constitute high elevation in three sides: a storage pit, and excavated soil on fourth side. Some johads are interconnected through deep channels,

with a single outlet in a river or stream to prevent structural damage. This cost-efficient and simple structure requires annual maintenance of de-silting and cleaning the storage area of weed growth. A johad prevents rainwater from running off, allowing it to percolate into the ground, recharging water aquifers and improve the water balance of the earth. Recently, johads have seen a revival in Rajasthan, especially in Alwar district.

- **Stepwells or Baoli** - They are called vav or vavadi in Gujarat, and baolis or bawdis in northern India. The stepwells of Gujarat consist of a vertical shaft in the middle from which water is drawn. Important stepwells are profusely carved and designed in such a way to serve as a cool resting place in summer. 11th century Mata Bhavani's vavat in Ahmedabad is one of the earliest stepwells. Rani ki vav (Queen's well) at Patan was built few decades after that is the grandest among all ways. Some other fine examples in Gujarat are Dada Hair's vav in Ahmedabad, and the octagonal vav at Adalaj, Gandhinagar. Stepwells used exclusively for agriculture had drainage systems that channeled water into the fields. **Bawaris** - Bawaris were unique stepwells used for water storage in the cities of Rajasthan in medieval times. Scant rain received would be diverted to these man-made tanks through canals built on the hilly outskirts of cities. To minimize water loss through evaporation, a series of layered steps were built around the reservoirs to narrow and deepen the wells.
- **Jhalara** - Jhalara is also a local name given to manmade stepwells used for community water needs and for religious rites purposes. Often rectangular in design, jhalaras have

steps on three or four sides. These stepwells collect the subterranean seepage of an upstream reservoir or a lake. The oldest Jhalara in Jodhpur is Mahamandir Jhalara, which dates back to 1660 AD.

- **Chauka System** - In Jaipur, degraded pastures have been dyked to form Chaukas to harvest rain. The Chaukas are rectangular plots arranged in a zigzag pattern and lie along a small gradient. Dykes with height of 1.5m are built along the three sides that lie towards the lower part of the gradient. Trees are also planted on the dykes to withstand rain. As the water level rises in one Chauka, it spills into the next and so on. Thus, the entire pasture receives water. The Chaukas do not get flooded. The excess water from the last Chauka flows into a drain. The Chauka system also promotes recharge of groundwater.

5. Techniques of South India

- **Temple tanks**- The temple tanks are known as Kovil Kulam in Tamil Nadu, Kulam in Kerala, Kalyani in Karnataka and Cheruvu or Pushkarini in Andhra Pradesh/Telangana. It is the focal point of meditation and several religious activities like the Theppam or float festival. In addition to it there were several hundred Yers (artificial tanks) to hold rainwater. It is also said that the founder of modern Bangalore, Kempegowda built several tanks in and around the city. Tanks are of two types: system and non-system tanks. System tanks get their water from the overflow of a reservoir, nearby stream, and the runoff from around their catchment. These tanks, being water sufficient, help farmers to grow more than one crop a year. Non-system tanks depend entirely on rainfall and therefore can

support only one crop. The tanks are connected through a system of canals to control and transport the water.

- **Eri** - One-third of the irrigated area of Tamil Nadu is watered by the Eris (tanks). A large number of broad irrigation tanks were built between 6th and 10th century A.D. during Pallava rule. From the beginning of the 16th century, rivers were partially diverted to fill these tanks quickly, which in turn, ensured food production. Before the East India Company's rule, local communities maintained these Eris.
- **Kulam** - Kulam was the small pond close to a temple constructed by the local masons. A Kulam was built with bricks (and occasionally by granite) and was attached to a temple, giving it the name Kovil Kulam or temple tank.
- **Lakes or Veris** and ponds or Kuttais were two other important water conservation structures in Tamil Nadu. A Yeri was a large earthenware tank dug out of the ground with the dugout mud making the side walls or bunds. A Kuttai was a small pond.
- **Anicuts (check dams)** were small or medium dams built across rivers to divert water into irrigation channels. The Grand Anicut or Kallanai was built by Karikala Chola in the 2nd century A.D. It was made of stone and situated on the river Cauvery where River Kollidam branches off.
- **Surangam (tunnel)** is a horizontal cave excavated in the mountains with super-condensed soil or rocks. This is a special water harvesting structure popular in Kasaragod district in northern Kerala. Water drips out from the rock crevice and runs through the horizontal cave/ tunnel (Surangam) and is collected in an open pit.
- **Kudimaramathu** is one of the old traditional practices of stakeholders

participating in the maintenance and management of irrigation systems. In this, citizens of a village participate in maintaining the water bodies of their village by deepening and widening the lakes and ponds and restoring them back to their original form. The silt, rich in nutrients, collected in the process is used by the farmers themselves in their field. A study done by the Indian Institute of Science in Bangalore in 2016 suggested that if Bangalore were to harvest its rainwater and to recycle and reuse its water, it could meet its entire domestic water requirements.

6. Techniques of South India

- **Jackwells** - In lower parts of the undulating terrain, they make bunds using logs of hard bullet wood. Split bamboo is extensively used. These split bamboos serve as channels for rainwater that is collected drop by drop in pits called Jackwells.
- **Kohli Tanks** - Kohli Tanks are called so because of the name of group of cultivators who built these tanks three centuries back. The tanks were built on the slopes of the Gaikhuri range. The larger tanks were on the higher slopes, while the smaller ones were placed in the foothills. These tanks constituted the backbone of irrigation in the area until the government took them over in the 1950s. These are considered crucial for sugar and rice irrigation even today.
- **Bandharas** - These check dams also impound water and form a large reservoir called Bandhara. They raise the water level of the rivers so that the water flows into the channels. The water supply would usually last for a few months after the rains.

- **Phad** - More than 4 centuries old and managed by the community, this irrigation system is prevalent in northwestern Maharashtra. The system operated on three rivers in the **Tapi basin - Panihra, Mosam and Aram** - in Dhule and Nasik districts. **Kere Tanks**, called Kere in Kannada, were the predominant traditional method of irrigation in the central Karnataka plateau, and were fed either by channels branching off from Anicuts (check dams) built across streams, or by streams in valleys. The tanks were built in a series, usually situated a few kilometres apart so that outflow/seepage of one tank higher up supplied the next all the way down the course of the stream.
- **Ramtek model** has been named after water harvesting structures in the town of Ramtek, Maharashtra. Ramtek model is an intricate network of groundwater and surface water bodies. These water bodies are intrinsically connected through surface and underground canals. This model harvests runoff through tanks, supported by high yielding wells and structures like Bawries, Kundis and waterholes. Tanks in Ramtek model form a chain, extending from the foothills to the plains, conserving about 60-70% of the total runoff. Once tanks located in the upper reaches close to the hills were filled to capacity, the water flowed down to fill successive tanks, generally through interconnecting channels.

7. Higher Himalayas

- **Zings** - Zings are water-harvesting structures in Ladakh. These are small tanks, in which melted glacier water is stored. A network of guiding channels brings water from the glacier to these

tanks. As glaciers melt during the day, the channels fill up with a trickle, that in the afternoon turns into flowing water. The water is collected by the evening and is used the next day. A local water official called the Churpun ensures that water is equitably distributed.

- **Ghul** - In the high altitude of Himalayan region, water is tapped from hill slopes known as Ghuls. Ghuls may be as long as 15 km carrying a discharge of 15 to 100 litres of water per second. In the entire region of Western Himalaya comprising Jammu, Himachal Pradesh, and Northern Uttarakhand, Ghul is a standard harvesting technique.

GS 2 - International Relation

INDIAN JUDICIARY AND ASSOCIATED CHALLENGES

Why in the News ?

- Hon'ble Chief Justice of India opined that there was a need to both increase the number of judges in High Courts and urgently fill existing vacancies.

1. Background

- After India attained independence in 1947, the Constitution of India came into being on 26 January 1950. "We, the people" of independent India, through the Constituent Assembly, enforced our own Constitution providing, inter alia, for replacing the Federal Court by establishing the Supreme Court of India as the apex court in the judicial hierarchy of the land, with its seat in Delhi.

- The Constituent Assembly conceived the Supreme Court of Independent India as the “Guardian of Social Revolution”, being a repository of all judicial power at the National Level.
- The Indian Judicial System is one of the oldest legal systems and still follows the features it inherited from the British judicial system.
- The Indian Judiciary is believed to be one of the most powerful judiciaries in the world.
- The Constitution of India itself gives the framework of the Indian Judiciary.
- The Indian Judiciary acts as a guardian of the Constitution of India and protects the fundamental rights of the society, thus making it the most important organ for the citizens of India.
- The Indian Judiciary system follows the “common law system” of legal jurisdiction. Common law is the law developed by the judges and it binds the future decisions
- The Indian Judiciary also follows the adversarial system.
- In India, there is 1 judge for 73000 people which is 7 times more than in the USA.
- If the present rate of disposal continues, civil cases would never be disposed of and the criminal cases will take more than 30 years.

3. Major Challenges associated with Judiciary

3.1 Delay in justice

- The Indian judiciary system has failed to deliver justice expeditiously.
- This delay in justice has proved to be one of the biggest drawbacks of the judiciary system.

- Delay in justice implies the time taken to dispose of a case, in excess of the time which should be reasonably consumed by the court to decide the case.
- Delay of justice creates disillusionment amongst the litigants, it also undermines the capability of the judiciary system.

3.2 The pendency of cases

- If we look at the figures, 2.84 crore cases are pending in the subordinate courts, the backlog clogging the High Courts and Supreme Court (SC) is 43 lakh and 57,987 cases, respectively.
- According to National Judicial Data Grid (NJDG), the five states which account for the highest pendency are Uttar Pradesh (61.58 lakh), Maharashtra (33.22 lakh), West Bengal (17.59 lakh), Bihar (16.58 lakh) and Gujarat (16.45 lakh).
- This number is increasing day by day which shows the inadequacy of the courts to deal with this matter.
- Generally, the victims of this are ordinary or poor people.
- The pendency of the cases also creates a big blockade for international investors and corporations to do business in India.

3.3 Low judges strength and appointment problem

- The vacancy of judges can also result in the delay of justice.
- There is a tussle between executive and judiciary over who should be appointing judges rather than how judges should be appointed.
- There are almost 5000 vacancies in trial courts.

- This is a serious issue as this is a place where the common man comes in the hope for justice.
- The pendency of the cases will also go down when the vacancies are filled.
- In this regard, the All India recruitment exam (All India judicial services) may help in resolving the issue of appointment of judges.

3.4 Strike by Lawyers

- The Supreme Court bench stated that lawyer strikes are one of the major reasons for pendency of cases.
- As per the High Court of Uttarakhand, advocates were on strike for 455 days between 2012 to 2016. That means that on average, lawyers went on strike for 91 days per year.
- The figures of the UP courts are worse, as the periods of the strike over five years in the worst affected districts were.

3.5 Lack of transparency

- In the functioning of the Indian judiciary system, the substantial issues like the quality of justice and accountability are not known to the citizens properly.
- There is also a need for transparency in the appointment of the judges.
- Right to know is a part of freedom of speech and expression, as provided by the Constitution, however, the present system violates this fundamental right.
- The citizen's right to know is also an international trend also supported by judicial decisions. Right now we do not have a transparent and foolproof system of appointment of judges. These also lead to delays in filling the vacancies.

3.6 Hardships of the under trials

- In India, over two-thirds of India's roughly 4.2 lakh prisoners are under trial, which is one of the world's largest number of under-trial prisoners.
- They are in jail not because they have been found guilty but because they are being prosecuted on charges that are non-bailable or when they are too poor to afford a bail.
- In most of the cases they end up spending more time in jail during the prosecution than the actual term awarded of the crime has been actually committed. Undertrials are not guilty till convicted.

3.7 No interaction with the society

- In order to form an effective judiciary, is necessary that the judiciary form an integral part of the society
- Judiciary's interaction with society is a must and it should be both regular and relevant.
- Several countries involve their citizens in judicial decision making, however, in India, there is no such setup.
- The citizens need to actively take part in judicial activities to build an effective judicial system

3.8 Less use of technology

- In order to have a more effective judiciary, it needs to adopt the technology. This will reduce the huge amount of paperwork involved.
- The database of the court is also not maintained in one place and there is no recording of the proceedings and hearings.

- Thus there is a need to use better technology for recording the statements, other technology such as CCTV's should also be used for recoveries and other related processes

4.Need of the Hour

4.1 To increase the strength of the judiciary

- In order to increase the strength, the All India recruitment exam (All India judicial services) may help in resolving the issue of appointment of judges.

4.2 To keep courts open throughout the year

- In order to deal with the pendency of cases it is necessary that the courts are open throughout the year, however, calendar of Supreme Courts (which is also applicable to other courts) provides week-long vacations each for Holi, Dussehra, Muharram, and Diwali along with the fortnight-long winter vacations.

4.3 Proper modernization of courts

- In the era of modernization, the court should not be left behind.
- They need to be fully digitised and a proper infrastructure should be built to provide easy access.

4.4 Introduction of fast-track courts

- The 11th Finance Commission recommended the creation of 1734 Fast track courts.
- These courts were established for expeditious disposal of long pending cases in sessions courts and other courts.

4.5 To do away with the archaic laws

- The Indian judicial system needs to let go of archaic laws and focus on taking consideration of the present social condition while giving a judgement.

4.6 Non-acceptance of flippant cases

- The judges should have clear instruction about the kind of cases they can accept in the court.

5.Way Forward

- *As Hon'ble Chief Justice of India mentioned, mere allocation of funds is not enough.*
- *The challenge is to put the available resources to optimum use*
- *Judiciary has been pursuing the government for setting up statutory authorities, both at the Centre and at the State to curb the pendency of cases.*

GS 3 - Indian Economy

ROLE OF ARTIFICIAL INTELLIGENCE IN HEALTHCARE

Why in the News ?

A new policy brief, Ageism in artificial intelligence for health, released by the World Health Organisation (WHO) presents legal, non-legal and technical measures that can be used in application of Artificial intelligence (AI) technologies to improve health and well-being

1.Background

- Artificial intelligence (AI) refers to the simulation of human intelligence in machines that are programmed to think like humans and mimic their actions.
- The ideal characteristic of artificial intelligence is its ability to rationalise and take actions that have the best chance of achieving a specific goal.
- The critical aspect is how new technologies can improve the welfare of societies and reduce the impact of communicable diseases, spotlighting the importance of technologies such as artificial intelligence (AI), autonomous systems, blockchain, cloud and

quantum computing, data analytics, 5G.

- The complexity and rise of data in healthcare means that artificial intelligence (AI) will increasingly be applied within the field.
- Several types of AI are already being employed by payers and providers of care, and life sciences companies.
- The key categories of applications involve diagnosis and treatment recommendations, patient engagement and adherence, and administrative activities.
- Although there are many instances in which AI can perform healthcare tasks as well or better than humans, implementation factors will prevent large-scale automation of healthcare professional jobs for a considerable period.
- Ethical issues in the application of AI to healthcare is to be discussed and evolved by the medical community.

2.How does AI matter in HealthCare

- Healthcare is one of the most critical sectors in the broader landscape of big data because of its fundamental role in a productive, thriving society.
- The application of AI to healthcare data can literally be a matter of life and death. AI can assist doctors, nurses, and other healthcare workers in their daily work.
- AI in healthcare can enhance preventive care and quality of life, produce more accurate diagnoses and treatment plans, and lead to better patient outcomes overall. AI can also predict and track the spread of infectious diseases by analysing data from a government, healthcare, and other sources.

- As a result, AI can play a crucial role in global public health as a tool for combating epidemics and pandemics.

3.Associated Challenges of AI in Healthcare

- AI is not a panacea for healthcare systems, and it comes with strings attached. The analyses in this report and the latest views from stakeholders and frontline staff reveal a set of themes that all players in the healthcare ecosystem will need to address:
- Working together to deliver quality AI in healthcare.
- Rethinking education and skills. We have already touched on the importance of digital skills—these are not part of most practitioners' arsenal today.
- Strengthening data quality, governance, security and interoperability.
- Managing change. Managing change while introducing AI is no different to managing change in complex institutions more broadly, but for healthcare, clinical leadership is key, as is being open to identifying the right use cases that support rather than antagonise practitioners and truly augment rather than substitute their ability to deliver the best possible care to their patients.
- Investing in new talent and creating new roles. Healthcare organisations need to consider how they will develop and recruit the new roles that will be critical to the successful introduction and adoption of AI, such as data scientists or data engineers.

4.Steps taken by India in the Domain of Artificial Intelligence

- The Government of India has already embarked on this revolution with

organisations like MeitY, NASSCOM, and DRDO having created the roadmap for AI in India.

- The use cases of AI in the government of India currently include biometric identification, facial recognition, criminal investigation, crowd and traffic management, digital agriculture, etc.
- Let's explore what other initiatives and strategies have been implemented in India at the governmental level

4.1.The US-India AI Initiative

- Indo-US Science and Technology Forum (IUSSTF) launched its flagship program, the US-India Artificial Intelligence Initiative. ○ The activity will bring together key stakeholders from India and the USA to foster AI innovation by sharing ideas and experiences, identifying new opportunities in research and development, and bilateral collaboration.

4.2.AI Centres of Excellence

- Government declared a National Artificial Intelligence (AI) Mission which include creating Centres of Excellence (CoE). There will be a National Centre for Transformation AI and this will have a mandate of application-based research.

4.3.MCA 3.0

- In May 2021, The Ministry of Corporate Affairs (MCA) recently launched a new version of its portal, MCA 21, version 3.0.
- It will leverage the use of the latest technologies like data analytics, AI, and ML, to simplify regulatory filings for companies.

- This was done to promote the ease of doing business and compliance monitoring.
- “The MCA21 V3.0 will not only improve the existing services and modules, but will also create new functionalities like e-adjudication, compliance management system, advanced helpdesk, feedback services, user dashboards, self-reporting tools, and revamped master data services.”

4.4.National Research Foundation

- The Government of India constituted the National Research Foundation (NRF) under the new National Education Policy (NEP) 2020.
- NRF is an autonomous body established to boost research across segments, including AI.
- “Fifty thousand crore rupees have been allocated for this.
- This will strengthen the governance structure of the research related institutions and will improve linkages between R&D, academia, and industry”.

4.5.AI in Schools

- As part of the National Education Policy (NEP) 2020, AI will now be a part of the Indian school curriculum.
- “The National Council of Educational Research & Training (NCERT) has initiated the process for preparing a new national curriculum framework for school education in pursuance of The National Education Policy 2020, during which the introduction of a new artificial intelligence course at a secondary level will be explored.”

5.Need of the Hour

- *Develop a regional or national AI strategy for healthcare, defining a medium and longer-term vision and*

goals, specific initiatives, resources and performance indicators. Define use cases to support through targeted funding and incentives to enable scaling of AI solutions across the system; ensure these deliver against both clinical and operational outcomes.

- Set standards for digitization, data quality and completeness, data access, governance, risk management, security and sharing, and system interoperability; incentivize adherence to standards through a combination of performance and financial incentives. Redesign workforce planning and clinical-education processes to address the needs of both future healthcare and AI-focused professionals; and invest upfront in upskilling frontline staff and designing lifelong-learning programs through continuing professional development and degrees or diplomas for healthcare professionals.
- Provide incentives and guidance for healthcare organisations to collaborate in centres of excellence/clusters of innovation at the regional or national level.
- Address AI regulation, liability and funding issues, creating the right environment for appropriate, safe and effective AI solutions to be adopted but minimising the risk to practitioners.
- Ensure this is reflected in funding and reimbursement mechanisms for innovation in healthcare—the number one priority for survey respondents from health systems, alongside simplifying data-governance and data-sharing processes.

6. Way Forward

- It also seems increasingly clear that AI systems will not replace human

clinicians on a large scale, but rather will augment their efforts to care for patients.

- Over time, human clinicians may move toward tasks and job designs that draw on uniquely human skills like empathy, persuasion and big-picture integration.
- Perhaps the only healthcare providers who will lose their jobs over time may be those who refuse to work alongside artificial intelligence.

GS 3 - Indian Economy

UNITED NATIONS

Why in the News ?

The United Nations calls for an urgent halt for the ongoing Russia Ukraine Crisis.

1. Background

- Four months after the San Francisco Conference ended, the United Nations officially began, on 24 October 1945, when it came into existence after its Charter had been ratified by China, France, the Soviet Union, the United Kingdom, the United States and by a majority of other signatories.
- Now, more than 75 years later, the United Nations is still working to maintain international peace and security, give humanitarian assistance to those in need, protect human rights, and uphold international law.
- At the same time, the United Nations is doing new work not envisioned for it in 1945 by its founders. The United Nations has set sustainable development goals for 2030, in order to achieve a better and more sustainable future for us all. UN Member States have also agreed to climate action to limit global warming.

- With many achievements now in its past, the United Nations is looking to the future, to new achievements.
- The history of the United Nations is still being written

1.1.The Birth of UN

- As World War II was about to end in 1945, nations were in ruins, and the world wanted peace. Representatives of 50 countries gathered at the United Nations Conference on International Organisation in San Francisco, California from 25 April to 26 June 1945.
- For the next two months, they proceeded to draft and then sign the UN Charter, which created a new international organisation, the United Nations, which, it was hoped, would prevent another world war like the one they had just lived through.

2. Main Bodies of United Nations

- The main bodies of the United Nations are the General Assembly, the Security Council, the Economic and Social Council, the Trusteeship Council, the International Court of Justice, and the UN Secretariat.
- All were established under the UN Charter when the Organisation was founded in 1945.

2.1 United Nations General Assembly

- The General Assembly is the main deliberative, policymaking and representative organ of the UN.
- All 193 Member States of the UN are represented in the General Assembly, making it the only UN body with universal representation.

- Each year, the full UN membership meets in the General Assembly Hall in New York for the annual General Assembly session, and general debate, which many heads of state attend and address.
- Decisions on important questions, such as those on peace and security, admission of new members and budgetary matters, require a two-thirds majority of the General Assembly.
- Decisions on other questions are by simple majority. The General Assembly, each year, elects a General Assembly President to serve a one-year term of office.

2.2 Security Council

- The Security Council has primary responsibility, under the UN Charter, for the maintenance of international peace and security.
- It has 15 Members (5 permanent and 10 non-permanent members). Each Member has one vote. Under the Charter, all Member States are obligated to comply with Council decisions.
- The Security Council takes the lead in determining the existence of a threat to the peace or act of aggression.
- It calls upon the parties to a dispute to settle it by peaceful means and recommends methods of adjustment or terms of settlement.
- In some cases, the Security Council can resort to imposing sanctions or even authorise the use of force to maintain or restore international peace and security.
- The Security Council has a Presidency, which rotates, and changes, every month.
 - Daily programme of work of the Security Council

- Subsidiary organs of the Security Council

2.3 The Economic and Social Council

- The Economic and Social Council is the principal body for coordination, policy review, policy dialogue and recommendations on economic, social and environmental issues, as well as implementation of internationally agreed development goals.
- It serves as the central mechanism for activities of the UN system and its specialised agencies in the economic, social and environmental fields, supervising subsidiary and expert bodies.
- It has 54 Members, elected by the General Assembly for overlapping three-year terms.
- It is the United Nations' central platform for reflection, debate, and innovative thinking on sustainable development.

2.4 Trusteeship council

- The Trusteeship Council was established in 1945 by the UN Charter, under Chapter XIII, to provide international supervision for 11 Trust Territories that had been placed under the administration of seven Member States, and ensure that adequate steps were taken to prepare the Territories for self-government and independence.

2.5 International Court of Justice

- The International Court of Justice is the principal judicial organ of the United Nations. Its seat is at the Peace Palace in the Hague (Netherlands).
- It is the only one of the six principal organs of the United Nations not located in New York (United States of America).
- The Court's role is to settle, in accordance with international law, legal disputes submitted to it by States and to give advisory opinions on legal questions referred to it by authorised United Nations organs and specialised agencies.
- The International Court of Justice functions in accordance with its Statute. (For more information on ICJ ref prelims booster dated 4th March 2022)

2.6 Secretariat

- The Secretariat comprises the Secretary-General and tens of thousands of international UN staff members who carry out the day-to-day work of the UN as mandated by the General Assembly and the Organisation's other principal bodies.
- The Secretary-General is Chief Administrative Officer of the Organisation, appointed by the General Assembly on the recommendation of the Security Council for a five-year, renewable term.
- The Secretary-General is also a symbol of the Organisation's ideals, and an advocate for all the world's peoples, especially the poor and vulnerable.
- UN staff members are recruited internationally and locally, and work in duty stations and on peacekeeping missions all around the world. But serving the cause of peace in a violent world is a dangerous occupation.

- Since the founding of the United Nations, hundreds of brave men and women have given their lives in its service.

3. Significance of India to UN

- India is the 3rd largest economy in terms of **GDP (PPP) and the 2nd most populous nation.**
- India is the **World's largest democracy**
- India is a founding member of the UN, and India has been a non-permanent member of the UNSC for the 8th term and also a member of other international structures such as MTCR, The Wassenaar Arrangement, etc.
- India enjoys the backing of major powers including four permanent members other than China and also the African Union, Latin America, Middle Eastern countries, and other LDCs from different parts of the globe.
- India provides large numbers of soldiers to the UN for peacekeeping missions,
- Fifthly, India is a responsible nuclear nation, which has stated a clear no-first-use policy and also followed the same in spirit and soul.
- India's success in space technology is another point for its candidature.
- India has been a responsible power and it has contributed significantly to global peace efforts and Humanitarian and Disaster Relief measures in various countries such as Pakistan, Yemen, South Sudan and the majority of the South Asian nations, etc.

4. Challenges faced by India in UN

- **China factor-** China does not want India and Japan to join the UNSC as permanent members

- **Challenge to multilateralism-** There is a rift between the permanent members of the Security Council. For example,
- **Change in Contemporary geopolitical reality-** The global power matrix has moved towards multilateralism but the UNSC and UN's power matrix concentrated on select countries.
- **Under-representation of Countries-** The regions like far East Asia, South America, Africa have no representation in the permanent membership of the council which can push for reforms at the UN level.

5. Impact of UN Reforms on India

- India can project our interests more powerfully.
- India would be directly responsible for peace and security questions.
- India's Rise as a global power.

6. Need of the Hour

- **Making the UN effective**
 - India needs to carve out a larger room for itself and try to create an atmosphere of cooperation as done by the US and USSR on nuclear proliferation.
- **Making the UN more representative**
 - India should push its efforts in partnership with Brazil, Germany, and Japan (G4 countries), to expand the UNSC.
- **India has to deal with China's growing enmity**
 - By presenting the real facts on the issue of cross-border terrorism and the constitutional changes in Kashmir.
 - Fourthly, India should renew its ties with African Nations

- 60 percent of UNSC documents and 70 percent of its resolutions are about peace and security in Africa.
- So there is an opportunity for India to deepen ties on peace and security issues in Africa at bilateral, regional, and global levels.
- **P5 has to be realistic**
 - The UNSC's Permanent members have to accept the present world's challenges and the significance of co-operation at multi-level, especially the COVID-19 pandemic that exposed the fault lines and the need for a multilateral collective solution.

7.Way forward

- South Asia being a victim of various repercussions of war, terrorism, and extremism India gains more say on its and neighbor's problems and will have power to challenge the ethos and working style of permanent members of UNSC, **India holding a diplomatic campaign is need of the hour.**

GS 3 - Indian Economy

MANGROVES

Why in the News ?

- Mumbai's mangroves may be on the verge of extinction. Coastal pollution is a major threat, besides the demand for sea-facing real estate.

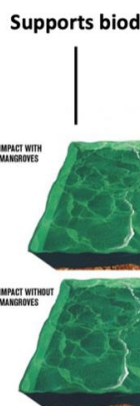
1.Background

- Mangroves are tropical trees that thrive in conditions most timber could never tolerate — salty, coastal waters, and the interminable ebb and flow of the tide.

- With the ability to store vast amounts of carbon, mangrove forests are key weapons in the fight against climate change, but they are under threat worldwide.
- Mangroves are salt-tolerant trees, also called halophytes, and are adapted to harsh coastal conditions.

2.Benefits of Mangroves

- Mangroves are the only species of trees in the world that can tolerate saltwater. Their strategy for dealing with otherwise toxic levels of salt is by excreting it through their waxy leaves which aids in water purification.
- Mangroves, specifically the underwater habitat their roots provide, offer critical nursing environments for juveniles of thousands of fish species, from 1-inch gobies to 10-foot sharks.
- Blue carbon ecosystems (mangroves, sea grasses and salt marshes) can be up to 10 times more efficient than terrestrial ecosystems at absorbing and storing carbon long term, making them a critical solution in the fight against climate change.
- Mangrove forests — specifically, their thick, impenetrable roots — are vital to shoreline communities as natural buffers against storm surges, an increasing threat in a changing global climate with rising sea levels.
- Mangroves' dense root systems inhibit the flow of tidal water and encourage the deposition of nutrient-rich sediments. But once lost, mangroves are very difficult to replant due to shifts in the very sediments the roots helped keep in place.



- Mangroves exhibit a Viviparity mode of reproduction. i.e. seeds germinate in the tree itself (before falling to the ground). ○ Vivipary: The seed remains attached to the parents' plant until it germinates. It then falls from the tree and drifts on the water until it finds somewhere to take root.
- By protecting mangroves, we can help protect the future of our planet.
- In India, the mangrove forests spread over 6,740 sq. km which is 7 percent of the world's mangrove forests.
- They are highly developed in the Andaman and Nicobar Islands and the Sundarbans of West Bengal.
- Other areas of significance are the Mahanadi, the Godavari and the Krishna deltas.
- These forests too, are being encroached upon, and hence, need conservation.

3.Distribution of Mangroves across India



4.Conditions Favourable for mangroves

- Mangroves are plants that grow in intertidal areas. They are halophytes ('salt-loving'). Most plants can not survive in salty conditions.
- Mangroves live in a unique environment-between land and sea. Mangroves represent a characteristic littoral (near the seashore) forest ecosystem.
- These are mostly evergreen forests that grow in sheltered low-lying coasts, estuaries, mudflats, tidal creeks, backwaters (coastal waters held back on land), marshes, and lagoons of tropical and subtropical regions.
- Mangroves grow below the high water level of spring tides.
- The best locations are where abundant silt is brought down by rivers or on the backshore of accreting sandy beaches such as sundarbans.

5.Initiatives taken to protect Mangroves

- The Sundarbans is the first mangrove forest in the world to be put under scientific management. The plan was implemented as early as in 1892.
- In 1976, the National Mangrove Committee was set up under the Environment Ministry.
- In 1979 it recommended focus on areas like mapping of mangroves using remote sensing, land surveys, etc., to determine degradation rate, assessing sites for establishing reserve forests, conservation program, afforestation, R&D etc.
- Several legislations like Environment (Protection) Act, Indian Forest Act, Wildlife Protection Act, Forest Conservation Act, etc. are sources of protection (though mangroves are not specifically mentioned in all of these).
- In 2013 the Biotechnology Department started a bio-restoration program in pilot mode in the Sundarbans. It involves stabilisation of degraded mangrove stretches with native grasses (salt-tolerant varieties). An on-site nursery is also set up. These nurseries grow a variety of mangrove species-native, associated, threatened, endangered, etc. 22 species were raised in these nurseries to maintain diversity. Transplantation was done in 2014.
- The Maharashtra government had announced that 5 times the number of trees cut down for the bullet train project are to be planted as part of restoration efforts.
- In 2005, the Mumbai High Court had classified mangroves as forests. In 2018, the High Court called the destruction of mangroves an offence to the fundamental rights of the citizens under article 21 of the Constitution.
- Since then, the government has been undertaking efforts to conserve the mangroves. In 2016, the Maharashtra government declared over 15,000 hectares of mangroves as reserve forest. Construction within 50 m of these mangroves is illegal.
- In 2018, India along with 7 other countries of the Bay of Bengal region came together to protect the mangroves under the BOBLME (Bay of Bengal Large Marine Ecosystem) project. The UN Food and Agriculture Organisation leads this project. The GEF (Global Environment Facility) approved a grant of 15 million USD for this project.
- **According to the 2021 State of Indian Forest Cover Report**, the mangrove forest cover in Maharashtra has increased by 72% in the last 6 years. This is an increase of 134 square kilometres.



1. **Discuss the causes of depletion of mangroves and explain their importance in maintaining coastal ecology.?(10M)**
2. **Can war bond be the solution to raise revenue for ongoing Russia-Ukraine Crisis. Elucidate? (10M)**

3. *Will artificial intelligence add burden to the ongoing employment Crisis? Critically analyse. (15M)?*

PRELIMS CORNER

WAR BONDS

1.About

- Gharials (or gavials) are a type of Asian crocodilian distinguished by their long, thin snouts.
 - A war bond is an initiative by a government to fund military operations and spending by issuing debt for the public to purchase.
 - The public may buy these bonds out of a feeling of patriotic duty, or other emotional appeal.
 - Although war bonds do not typically pay interest, they are sold at a discount that mature to face value, typically after a period of 10 to 30 years.
 - War bonds are debt securities issued by a government to finance military operations and other expenditure in times of war. They are also a means to control inflation by removing money from circulation from a stimulated wartime economy.
 - War bonds are either retail bonds marketed directly to the public or wholesale bonds traded on a stock market.
 - Exhortations to buy war bonds are often accompanied by appeals to patriotism and conscience.
 - Retail war bonds, like other retail bonds, tend to have a yield which is below that offered by the market and are often made available in a wide range of denominations to make them affordable for all citizens.
- The project aimed at extending mental health training to many One Stop Centre functionaries across the country.
 - The event witnessed the participation of representatives from the government, NIMHANS, NALSA and the representatives of One Stop Centre.
 - The project is intended to give life and dignity to women and break the cycle of violence by educating women and spreading awareness among them.
 - Besides, the Ministry of Women and Child Development is also putting efforts to establish 'Nari Adalat' with the help of NALSA in order to deliver speedy justice to the victims.
 - It will also emphasise the security, safety and mental wellbeing of women.
 - In collaboration with NALSA, the government implements the 'Nyaya Bandhu' programme to link the persons eligible to avail of free legal aid under section 12 of the Legal Services Authorities Act, 1987 with lawyers.
 - Additionally, facilities of tele-law programmes provide free legal advice to the public including persons entitled to free legal aid.

NERCORMP

1.About

- NERCORMP stands for North Eastern Region Community Resource Management Project for Upland Areas.
- It is a livelihood and rural development project aimed to transform the lives of the poor and marginalised Tribal families in North East (NE) India.
- It is a jointly funded project of the International Fund for Agricultural Development (IFAD) and North Eastern Council, Ministry of DoNER, Government of India.

STREE MANORAKSHA PROJECT

1.About

NORD STREAM 2

1.About

- Nord Stream 2 is a new export gas pipeline running from Russia to Europe across the Baltic Sea.
- The decision to build Nord Stream 2 was based on the successful experience in building and operating the Nord Stream gas pipeline.
- The new pipeline, similar to the one in operation, will establish a direct link between Gazprom and the European consumers.
- It will also ensure a highly reliable supply of Russian gas to Europe.
- This is particularly important now when Europe sees a decline in domestic gas production and an increasing demand for imported gas.
- The entry point of the Nord Stream 2 gas pipeline into the Baltic Sea will be the Ust-Luga area of the Leningrad Region.
- Then the pipeline will stretch across the Baltic Sea.
- Its exit point in Germany will be in the Greifswald area close to the exit point of Nord Stream.
- The total capacity of two strings of Nord Stream 2 is 55 billion cubic metres of gas per year. The aggregated design capacity of Nord Stream and Nord Stream 2 is therefore 110 billion cubic metres of gas per year.



THOLPAVAKOOTHU

1.About

- Tholpavakoothu or shadow puppetry is a temple art form which is prevalent in the Bhagavathy temples (mother Goddess) in Palakkad district and nearby regions in Kerala.
- Tholppava (Thol means leather, Pava means puppet) are moved with the help of strings, and their shadows are depicted on a screen with the help of a row of oil lamps in the background.
- The story of Tholpavakoothu performance is from the Indian epic, Ramayana.
- In the olden days it was performed elaborately over a period of forty-one days.
- The narrative used for the performance is a mixture of prose and poetry called Adalpattu.
- Tholppavas are made of the leather and the puppet forms are made by making small holes in the leather that is then attached vertically to a bamboo stick.
- Accompanying instruments include Ezhupara, Chenda and Maddalam.
- The artists have to undergo several years of rigorous training to master this art form.
- The puppetry is staged on a special structure in temple premises called Koothumadam.

PM-KISAN

1.About

- With a view to provide income support to all land holding eligible farmer families, the Government has launched PM-KISAN.
- The scheme aims to supplement the financial needs of the farmers in procuring various inputs to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income

2.Silent provisions of the Scheme

- PM Kisan is a Central Sector scheme with 100% funding from Government of India
- Under the scheme an income support of 6,000/- per year in three equal instalments will be provided to all land holding farmer families
Definition of family for the scheme is husband, wife and minor children.
- State government shall identify eligibility according to guidelines
The beneficiaries are allocated the provision of direct benefit transfer
There are various Exclusion Categories for the scheme.

ALGAL BLOOMS

1.About

- Critical to aquatic food webs, algae are photosynthetic organisms—in other words,
- they derive energy for growth from the sun.
- An algal bloom is the overgrowth of microscopic algae or algae-like bacteria in
- fresh, salt, or brackish waters.
- Depending on the type of algae or bacteria that cause it, an algal bloom may
- produce bad-smelling scum, foam, froth, or a paint like slick.

- Algal blooms can be many colours, including blue-green, yellow, brown, pink, and red.
- Not all algal blooms are toxic, but research indicates that a growing number are. A harmful algal bloom, or HAB, is a bloom that produces toxins that are dangerous to humans and potentially other organisms.

VANDHAN VIKAS YOJANA

1.About

- The scheme aims at the economic development of tribals involved in the collection of Minor Food Produces (MFPs) by helping them in optimum utilisation of natural resources and providing them with a sustainable livelihood.
- Under this scheme, the Van Dhan Vikas Kendras constituted, provide skill up-gradation and capacity building training and setting up of primary processing and value addition facilities.
- The tribals will be trained on sustainable harvesting, collection, primary processing, and value addition. They will be formed into clusters to aggregate their stock in tradable quantities and link them with the facility of primary processing in Van Dhan Vikas Kendra.
- These Kendras play a significant role in the economic progress and development of tribes.
- They also help the tribals utilise their natural resources in the best possible way providing them with a sustainable livelihood based on Minor Forest Produce from the MFP-rich areas.

- The central and state governments will provide necessary support by creating infrastructure and providing an enabling environment for undertaking value addition on systematic scientific lines.

KONYAK TRIBE

- The Konyak are the largest tribe, followed by Ao, Tangkhul, Sema, and Angami in Nagaland. The Konyaks are one of the major ethnic groups of Nagaland.
- Reside mostly in the Mon district also known as 'The Land of The Anghs'.
- Also found in some districts of Arunachal Pradesh, Assam and Myanmar
- The Anghs/Wangs are their traditional chiefs
- Facial tattoos were earned as an honour shown on the battlefield.

BILCHAM

- In order to provide financial assistance to the rural community of the North-East region, the Ministry of Development of North Eastern Region (DoNER) -funded the Banking Institute & Learning Centre of Excellence for Holistic Aspiration of Mothers (BILCHAM).
- BILCHAM is now a strong women independent organisation catering to the livelihood and credit for the poorest of the poor who were earlier devoid of all these facilities.
- BILCHAM gives services to the entire West Garo Hills and some parts of East and South Garo Hills independently through the SHG Federations who are also the members of the Board responsible for scrutinising, sanctioning and recovery of the loans.

- With the passing of time, the popularity and recognition of this institute has gained tremendous confidence among the rural poor due to easy access of credit and a feeling of ownership resulting in positive response from all quarters.

PRELIMS QUESTIONS FOR THE DAY

1. Consider the following statements:

1. Rainfed agriculture accounts for more than 60 percent of the net sown area and contributes to more than 60 percent of the total foodgrain production in India.
2. The National Rainfed Area Authority (NRAA) was formed in 2006 as an expert body of the Ministry of Agriculture.
3. The Governing Board of NRAA is chaired by Union Agriculture Minister.

Which of the statements given above is/are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

2. Consider the following statements about National Urban Livelihoods Mission:

1. It was launched in 2013 to reduce poverty and vulnerability of urban poor.
2. It is an employment "guarantee" scheme for the urban poor.
3. National Urban Livelihoods Mission (NULM) has been renamed as Deen Dayal Antyodaya Yojana-(DAY-NULM).

Which of the statements given above is/are correct?

- a) 1 and 2 only
- b) 2 and 3 only
- c) 1 and 3 only
- d) 1, 2 and 3

ANSWER	B	C	B	A	C
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3.with reference to Small Satellite Launch Vehicle (SSLV), consider the following statements

1) While SSLV is intended to put satellites into low earth orbit, PSLV puts satellites into higher earth orbits.

2) The turnaround time of SSLV is much lower than the PSLV.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 only
- C. .Both 1 and 2
- D. Neither 1 nor 2

4.Recently approved draft GSR (general statutory rules) Notification, is intended to fulfil, which of the following purposes?

1) To assess crash safety of a vehicle

2) To increase exports of Indian vehicles

3) To assess the pollution level of a vehicle

Select the correct answer using the codes given below

- A. 1 and 2 only
- B. 1 and 3 only
- C. 2 and 3 only
- D. All of the above

5. Exercise Vajra Prahar is a Joint Special Forces exercise between India and which of the following country?

- A. Canada
- B. .Australia
- C. The USA
- D. Japan

ANSWER KEY

QUESTION	1	2	3	4	5
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