SOCIOECONOMIC DEVELOPMENT

❖ **How the Kochi Water Metro will improve islanders' socio-economic status, boost tourism**

➢ **CONTEXT:** The ₹1,136 cr Kochi Water Metro project that Prime Minister Narendra Modi launched remotely from Thiruvananthapuram recently would see a fleet of 78 air-conditioned electric-hybrid ferries providing waterway connectivity, from locales in the mainland to 10 islands that are spread over backwaters in the Greater Kochi area.

➢ **How will it boost tourism and improve islanders' socio-economic situation?**

• The project which is the first of its kind in Asia, was envisaged in 2014 as the waterway extension of Kochi Metro, in order to provide metro-rail-like comfort, reliability and safety to approximately one lakh islanders. Once all the ferries roll out, the Water Metro is expected to catapult Kochi to the league of select few global cities which have an integrated control system to monitor such a big fleet of ferries. Eight ferries have begun operating in two routes — High Court-Vypeen and Vyttila-Kakkanad, at frequent intervals.

• Although the project's primary aim was to establish sustainable water-transport connectivity from the mainland to the islands, there is hope on the ferries also boosting the hitherto-untapped tourism potential of the islands. Direct waterway connectivity to the mainland and arrival of tourists would in turn improve the socio-economic condition of the around a lakh islanders.

• The modern ferry project is being seen as yet another crown on Kerala, which is recognised globally as among the must-see destinations. Once all 78 ferries are ready, they would link 38 terminals spread over 15 routes in a 76-km waterway corridor. The 100-passenger capacity ferries can attain 8 knots (15 kmph) speed in battery mode and 10 knots (18 kmph) speed in hybrid mode.

✓ The project's launch was delayed by over two years, due to hassles in importing components during the pandemic.

• During this time, the electric hybrid ferries went on to win the iconic Gussies Electric Boat Award-2022 in the commercial ferry category. The award was instituted in memory of Gustave Trouve, a French electrical engineer who had 75 patents.

➢ **What is the price across routes?**

• The project which is expected to lessen carbon emissions by 44,000 tonnes every year, is being funded by the State Government, mainly through a ₹908.76 cr loan availed from German lending agency KfW. The KMRL entrusted Cochin Shipyard Limited (CSL) with the task of constructing the first batch of 23 100-passenger ferries. The bidding process is underway to award the order for another 55 50-passenger ferries.

• The ferries — each of which is priced at approximately ₹7.30 cr, would operate every 15 minutes during peak hours, while they will operate based on demand during rest of the time. The service that would begin at 7 a.m. will continue till 8 pm.

• The fare for the High Court-Vypeen route is ₹20 and ₹30 for the Vyttila-Kakkanad route. Passes are available for ₹180, ₹600 and ₹1500, for varying durations.

• Even differently-abled people can safely board the vessels, irrespective of high or low tide, since there will be floating pontoons in all terminals on the mainland and at 10 islands. A total of 34,000 commuters were expected to use the ferries daily, in the project's first phase.

• According to KMRL commuters can travel at 50% fare discount or as low as ₹10 per trip if they availed of the three-month ₹1500 pass. "The more one travels, the less one pays and the maximum fare in impending routes would be limited to ₹40. Passengers have been saying that the ferries are both children and differently-abled-friendly. The vessels can also carry bicycles.

➢ **Kudumbasree SHG**

• Another development of Kochi Water Metro is that the housekeeping, ticketing and allied tasks at terminals will be carried out by women from Kudumbasree self-help group. The group's 555 personnel are already engaged in these and related tasks at Kochi Metro stations, since 2017 when the metro was commissioned.

➢ **Is the project environmentally sustainable?**

• The Water Metro project is set to follow the footsteps of Cochin International Airport which became the world's first fully solar-powered airport. Efforts are underway to identify land in different districts of Kerala to establish a 17 Mw solar farm, in order to attain carbon-neutral status. This will not be an endeavour at 'greenwashing', referring to many firms claiming to operate in a carbon-neutral manner, while being far away from it.

➢ **Is there competition?**

• On its part, the State Water Transport Department (SWTD), which has a heavily-subsidised fare structure, has risen to potential competition from Water Metro ferries, by replacing its fleet of steel ferries with catamaran ferries that offer a comfortable and safer ride.

1

- According to Chief Minister of Kerala the project could be emulated in at least 40 cities in India which had abundant waterways, especially so since the LTO batteries in the ferries would last much longer than conventional ones and could be charged faster.

HEALTH

❖ **Preparedness and Resilience for Emerging Threats (PRET) Initiative**

➢ **CONTEXT: The World Health Organization (WHO) has launched a new initiative to be better prepared for future outbreaks of a similar scale and devastation as the COVID-19 pandemic.**

➢ **About**

- The initiative was announced at the Global Meeting for Future Respiratory Pathogen Pandemics held in Geneva, Switzerland.
- The Preparedness and Resilience for Emerging Threats (PRET) Initiative is aimed at providing "guidance on integrated planning for responding to any respiratory pathogen such as influenza or coronaviruses".
- While the current focus of PRET will be on respiratory viruses — in the backdrop of the SARS-CoV-2 outbreak.
- Possible threat of an avian influenza outbreak work is already underway to assess what should be the next group of pathogens to be mitigated under this initiative.
- The three-pronged approach includes:
  ✓ Updating preparedness plans that affirm priority actions,
  ✓ Increase connectivity among stakeholders in pandemic preparedness planning through systematic coordination and cooperation and dedicate sustained investments,
  ✓ Financing and monitoring of pandemic preparedness with a special focus on bridging the lacunes highlighted during the COVID-19 pandemic.
- The framework is expected to be outlined soon, lists a host of actions which countries will be expected to work on with progress being achieved by December 2025.

➢ **Challenges faced globally, during COVID pandemic**

- All countries had insufficient health capacities. This left the world acutely vulnerable to future health emergencies.
  ✓ All countries remain dangerously unprepared for future epidemic and pandemic threats, including threats potentially more devastating than COVID-19.
- 65% of assessed countries had not published and implemented an overarching national public health emergency response plan for diseases with epidemic or pandemic potential.
- 73% of countries did not have the ability to provide expedited approval for medical countermeasures, such as vaccines and antiviral drugs, during a public health emergency.
- Most countries, including high-income ones, have not made dedicated financial investments in strengthening epidemic or pandemic preparedness.

➢ **India's Health Sector**

- India's health care system consists of both public and private components: The government healthcare system concentrates on establishing primary healthcare centers (PHCs) in rural areas while maintaining a small number of secondary and tertiary care facilities in major cities. Majority of secondary, tertiary, and quaternary care facilities are run by the private sector, with a focus on metropolises and tier-I and tier-II cities.
- In the Economic Survey of 2022, India's public expenditure on healthcare stood at 2.1% of GDP in 2021-22 against 1.8% in 2020-21 and 1.3% in 2019-20.

➢ **Challenges:**

- India's health care system is concentrated in urban areas with very little presence in the rural areas where majority of the population lives.
- India's public expenditure on healthcare is only 2.1% of GDP in 2021-22 while Japan, Canada and France spend about 10% of their GDP on public healthcare.
- In India, R&D and cutting-edge technology-led new projects receive little attention.
- The doctor patient ratio in india is about 1:1500 much higher than the WHO norm of one doctor for every 1,000 people.

➢ **Initiatives:**

- Pradhan Mantri-Ayushman Bharat Health Infrastructure Mission (PM-ABHIM): It aims to strengthen India's health infrastructure and improve the country's primary, secondary and tertiary care services.
- Ayushman Bharat: Creation of health and wellness centres to bring health care closer to homes.
  ✓ Formulation of a Pradhan Mantri Jan Arogya Yojana (PMJAY) to protect poor and vulnerable families against financial risk arising out of health episodes.

2

- Ayushman Bharat Digital Mission: It aims to connect the digital health solutions of hospitals across the country. Under this, every citizen will now get a digital health ID and their health record will be digitally protected.
- National Ayush Mission: It is a centrally sponsored scheme for the development of traditional medicines
- Pradhan Mantri Swasthya Suraksha Yojana (PMSSY): It aims to correct regional imbalances in the availability of affordable/reliable tertiary healthcare services and also to augment facilities for quality medical education in the country

➢ **Suggestions for effective pandemic preparedness:**
- Prioritizing health security: Prioritize the building and maintaining of health security capacities in national budgets as they are important for responding to routine health threats and can provide important benefits to countries' overall health and development.
- Transparency in capacities and risk factors**:** National decision-makers need readily available information about their country's plans and other capacities, and increased transparency is essential for a global prevention, detection, and response to epidemics and pandemics.
- Conducting post COVID pandemic surveys: Conduct comprehensive after-action COVID-19 pandemic reports so that they can learn from this crisis and ensure that capacities developed during the pandemic are expanded and sustained for future public health emergencies.
- Global support: Support countries in addressing the urgent global need to strengthen health systems as part of countries' public health capacity-building efforts.
- Community engagement and equity: Just as health emergencies have impacts across many sectors, so must our preparedness and response efforts span sectors, disciplines and pathogens. It is critical, too, that community engagement and equity are the centre of our efforts, especially for those populations that are marginalised and most at risk.

➢ **Way ahead**
- The PRET Initiative ushers in **a** new era for pandemic preparedness and represents an evolution of WHO's core activities to support all member states in strengthening health emergency preparedness, prevention, and response capacities and capabilities.

PRELIMS

1. **India-UK NET zero innovation virtual center**
➢ **CONTEXT: India and the United Kingdom have agreed to create India-UK NET zero innovation virtual center.**
➢ About
- It will provide a platform to bring stakeholders from both countries together to work in some of the focus areas including the **Decarbonization of manufacturing** processes & **transport systems** and **Green Hydrogen** as a **renewable source**.

➢ **Other Developments**
- The close collaboration between the India-UK strengthened through an ambitious 'Roadmap 2030' that provides a framework for UK-India relations across health, climate, trade, education, science and technology, and defence.
- the MOES and UK Met Office collaboration in weather and climate science aims to conduct joint research on natural hazards in the South Asian monsoon system, improve the modelling capabilities at different scales, and improve tools and techniques for risk based (ensemble) forecasting of natural hazards,
- the MOES-NEKTON joint research programme towards exploration and conservation of marine biodiversity under the Deep Ocean Mission in India.

➢ **Importance**
- The UK has emerged as **India's** second-largest international research and innovation partner. The **India-UK Science & Technology (S&T) collaboration** has been growing at a rapid pace and the joint research programme has gone from an almost zero base to close to £300-400 million now.
- The partnership will provide a great mechanism to support research and innovation in both countries for long-term sustainable growth through expanding and maximizing cooperation in areas of mutual interest.
- The revival of the DST Innovate UK Industrial R & D programme will provide opportunity to Indian and UK academia and industry for developing newer products/process together for economic growth of both nations.

2. **UN Permanent Forum on Indigenous Issues**
➢ **CONTEXT: Full inclusion of indigenous people in realising their socio-economic development and preservation of culture, languages as well as environment took centre stage at the 22nd session of the United Nations Permanent Forum on Indigenous Issues (UNPFII).**
➢ **About the forum**

3

- The Permanent Forum is an advisory body to the Economic and Social Council established in 2000.
- The Forum has the mandate to discuss indigenous issues related to economic and social development, culture, the environment, education, health and human rights.
- According to its mandate, the Permanent Forum will:
  - ✓ provide expert advice and recommendations on indigenous issues to the Council, as well as to programmes, funds and agencies of the United Nations, through ECOSOC;
  - ✓ raise awareness and promote the integration and coordination of activities related to indigenous issues within the UN system;
  - ✓ prepare and disseminate information on indigenous issues The Permanent Forum holds annual two-week sessions.

➢ **History**
- The first meeting of the Permanent Forum was held in May 2002, and yearly sessions take place in New York.
- The Permanent Forum is one of three UN bodies that is mandated to deal specifically with indigenous peoples' issues.
- The others are the Expert Mechanism on the Rights of Indigenous Peoples and the Special Rapporteur Rights of Indigenous Peoples.

➢ **Members of the United Nations Permanent Forum**
- The Permanent Forum is comprised of sixteen independent experts, functioning in their personal capacity, who serve for a term of three years as Members and may be re-elected or re-appointed for one additional term.
- Eight of the experts are nominated by governments and eight are nominated directly by indigenous organizations in their regions.
- The experts nominated by governments are elected by ECOSOC based on the five regional groupings of States normally used at the United Nations (Africa; Asia; Eastern Europe; Latin America and the Caribbean; and Western Europe and Other States).
- The experts nominated by indigenous organizations are appointed by the President of ECOSOC and represent the seven socio-cultural regions determined to give broad representation to the world's indigenous peoples.
  - ✓ The regions are Africa; Asia; Central and South America and the Caribbean; the Arctic; Central and Eastern Europe, Russian Federation, Central Asia and Transcaucasia; North America; and the Pacific—with one additional rotating seat among the three first listed above.

3. Seamounts
➢ **CONTEXT: A 2011 census had already mapped 24,000 seamounts across the world's oceans. But now, in an astonishing discovery, scientists have reported finding 19,325 new seamounts after poring through new high-resolution data.**

➢ **About**
- A seamount is an underwater mountain.
- Seamounts are typically formed from extinct volcanoes that rise abruptly and are usually found rising from the seafloor to 1,000–4,000 m (3,300–13,100 ft) in height.
- A seamount is technically defined as an isolated rise in elevation of 1,000 m (3,281 ft) or more from the surrounding seafloor, and with a limited summit area, of conical form.
- They are formed through volcanic activity and scientists recognise them as hotspots for marine life.
- Like volcanoes on land, seamounts can be active, extinct or dormant volcanoes.

➢ **Area of Formation**
- Most seamounts are formed near mid-ocean ridges, where the earth's tectonic plates are moving apart, allowing molten rock to rise to the seafloor.
- The planet's two most-studied mid-ocean ridges are the Mid-Atlantic Ridge and the East Pacific Rise.
- Some seamounts have also been found near intraplate hotspots – regions of heavy volcanic activity within a plate – and oceanic island chains with volcanic and seismic activity called island arcs.

➢ **Role and Importance of Seamounts**
- Information on evolution of Tectonic Plates: Because seamounts are formed when molten rock comes up from below the tectonic plates, they provide information about the mantle's composition and about how tectonic plates evolve.
- Water Circulation: Oceanographers also study seamounts to understand their influence on how water circulates and absorbs heat and carbon dioxide.

4

- Home to diverse biological communities: Seamounts are home to diverse biological communities. They are good places for life because they can cause localised ocean upwelling – the process by which nutrient-rich water from deep within the ocean moves up to the surface.
- Insights on Evolution of Earth: Forged and altered by volcanic and tectonic processes that are intimately linked to the deep earth. They give us insights into the forces that have shaped the face of our planet.
- Mineral Harvesting: They are also being targeted by mining companies that hope to harvest the minerals that often collect around seamounts as a result of hydrothermal activity.
- Hotspot of marine life: Seamounts also attract an abundance of marine life and are productive fishing grounds more than 80 commercial species worldwide.
➢ Mapping of Seamounts
- Surveyors map seamounts using one of two modes – echo sounders or multibeam sonar on ships for topographic mapping or using satellite altimetry for gravity-field mapping.
- Research vessels with multibeam sonar mapping produce hi-res maps but these maps are often incomplete: the places where the vessels don't go become blindspots.
- In satellite altimetry, a satellite uses radar to gauge the shape of the seafloor by measuring the time taken for each pulse to bounce off the ground and return. The resulting maps are low-res but have much better coverage.
- SARAL, a satellite that India and France developed together for oceanographic studies, made a significant contribution by further reducing radar noise and enabling the expansion of the seamount catalogue.
- Seamounts are often found in groupings or submerged archipelagos, a classic example being the Emperor Seamounts, an extension of the Hawaiian Islands.
- Isolated seamounts and those without clear volcanic origins are less common; examples include Bollons Seamount, Eratosthenes Seamount, Axial Seamount and Gorringe Ridge.
➢ Biological Richness
- The biological richness of seamount habitats results from the shape of these undersea mountains.
- Due to the steep slopes of seamounts, nutrients are carried upwards from the depths of the oceans toward the sunlit surface, providing food for creatures ranging from corals to fish to crustaceans.
- Seamounts encompass about 8 million square kilometers of the Earth's surface.
- That's larger than deserts, tundra, or any other single land-based global habitat on the planet.

ANSWER WRITTING

Q. Discuss the ethical implications of using artificial intelligence in decision-making processes.

Introduction

The rapid development of artificial intelligence (AI) has raised ethical concerns in decision-making processes. While AI has the potential to increase efficiency and accuracy, its use raises important ethical considerations.

Ethical implications of using artificial intelligence in decision-making processes

- **Fairness:** AI systems can perpetuate existing biases and discrimination in society.
- The algorithms are only as unbiased as the data they are trained on.
✓ Thus, it is necessary to ensure that the data is diverse and representative of different groups to prevent discrimination.
- **Accountability:** With AI decision-making, it can be challenging to determine who is responsible for the decisions made.
✓ Thus, there must be a clear understanding of the roles and responsibilities of all parties involved in the development and deployment of AI systems.
- **Transparency:** It is essential to have transparency in AI decision-making processes to ensure that decisions are made based on valid and reliable information.
✓ Transparency can help build trust in AI systems, enabling people to understand and challenge decisions made by AI.
- **Privacy:** The use of AI in decision-making processes raises privacy concerns.
✓ Data collected by AI systems can be used to make decisions about individuals, and the individuals may not be aware of the data collected about them.

Conclusion

The ethical implications of using AI in decision-making processes must be addressed to ensure that AI is developed and deployed in a responsible and ethical manner. The development of AI must be guided by ethical principles to ensure that it benefits society as a whole.

MCQs

1. Consider the following statements:
   1. Gujarat has the largest solar park in India.

2. Kerala has a fully solar powered International Airport.

5

3. Goa has the largest floating solar photovoltaic project in India.

Which of the statements given above is/are correct?

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

2. With reference to lithium-titanium-oxide (LTO) battery consider the following statements

1. It has the advantage of being faster to charge than other lithium-ion batteries
2. They have very lower energy density than lithium ion batteries

Which of the above statement/s is/are correct?

a) 1 only
b) 2 only
c) Both 1 and 2
d) Neither 1 nor 2

3. With reference to National AYUSH Mission (NAM), consider the following statements

1. It is a central sector scheme for development and promotion of AYUSH system of medicine including Homoeopathy.
2. Under it, yearly targets have been fixed by central government and unused fund will be lapsed after financial year.
3. Setting up of AYUSH Hospitals and Dispensaries comes under the purview of respective State/UT Governments

Select the incorrect statement.

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

4. Consider the following statements with respect to United Nations Permanent Forum on Indigenous Issues (UNPFII)

1. It is a high-level advisory body to the UN Economic and Social Council.
2. It mandates to discuss indigenous issues related to economic and social development, culture, the environment, education, health and human rights.

Which of the statement/s given above is/are correct?

a) 1 only
b) 2 only

c) Both 1 and 2
d) Neither 1 nor 2

5. Nagorno-Karabakh is a disputed territory between which of the following countries?

a) Azerbaijan and Armenia
b) Turkmenistan and Afghanistan
c) Armenia and Iran
d) Azerbaijan and Russia

6. Seamount with flat tops are called as

a) Atoll
b) Submarine canyon
c) Guyots
d) Mid Oceanic Ridge

7. Recently India decided to establish "NET Zero" Innovation Virtual Centre with which of the following country?

a) USA
b) UK
c) Russia
d) France

8. Consider the following statements:

1. Pygmy hogs are found throughout the Northeastern states of India.
2. It is an endangered species.

Which of the above statements is/are correct?

a. 1 only
b. 2 only
c. Both 1 and 2
d. neither 1 nor 2

9. Consider the following statements:

1. Breach of privilege means the violation of any of the privileges of a Member of Parliament.
2. Reflections on the Speaker's character and impartiality in performing his duties amounts to breach of privilege.

Which of the above statements is/are correct?

a. 1 only
b. 2 only
c. Both 1 and 2
d. Neither 1 nor 2

10. 'Preparedness and Resilience for Emerging Threats (PRET) initiative' was launched by

a) World Trade Organization
b) United Nations Environment Programme
c) World Health Organization
d) G-20