GOVERNANCE

Medical Device Parks Scheme

Recently, the Ministry of Chemicals and Fertilizers has launched the Scheme for "Promotion of Medical Device Parks" to support the medical devices industry in line with Atmanirbhar Bharat.

Key Points

About:

- The medical device industry is a unique blend of engineering and medicine. It involves the creation of machines that are used to support life within the human body.
- Medical devices include Surgical Equipment, Diagnostic equipment like Cardiac imaging, CT scans, X-ray, Molecular Imaging, MRI and Ultrasound-imaging including hand - held devices; Life Support equipment like ventilator, etc. as well as Implants and Disposables.

Objectives:

- The easy access to standard testing and infrastructure facilities through the creation of world-class common infrastructure facilities via medical device parks.
- To reduce the cost of production of medical devices and the better availability and affordability of medical devices in the domestic market.

Financial Assistance:

- The total financial outlay of the scheme is Rs 400 crore and the tenure of the scheme is from FY 2020-2021 to FY 2024-2025.
- Financial assistance to a selected Medical Device Park would be 70% of the project cost of common infrastructure facilities.In the case of the North-Eastern States and the Hilly States, financial assistance would be 90% of the project cost.
- Maximum assistance under the scheme for one Medical Device Park would be limited to Rs. 100 crores.
- The Centre has granted in-principal approval for the parks in Himachal Pradesh, Tamil Nadu, Madhya Pradesh and Uttar Pradesh.

Medical Devices Sector in India:

- The Medical Devices industry in India is valued at USD 5.2 billion, contributing about 4-5% to the USD 96.7 billion Indian healthcare Industry.
- Medical devices sector in India is very small in size as compared to the rest of the manufacturing industry, though India is one of the top twenty markets for medical devices in the world and is the 4th largest market in Asia after Japan, China, and South Korea.
- India currently imports 80-90% of medical devices of the USD15 billion market.The US, Germany, China, Japan, and Singapore constitute the five largest exporters of high technology medical equipment to India.

Related Initiatives:

- In June 2021, the Quality Council of India (QCI) and the Association of Indian Manufacturers of Medical Devices (AiMeD) launched the Indian Certification of Medical Devices (ICMED) 13485 Plus scheme to undertake verification of the quality, safety and efficacy of medical devices.
- To boost domestic manufacturing of medical devices and attract huge investments in India, the department of pharmaceuticals launched a PLI scheme for domestic manufacturing of medical devices, with a total outlay of funds worth Rs.3,420 crore for the period FY21-FY28.
- The Ministry of Health and Family Welfare has notified that medical equipment would qualify as ‘drugs’ under Section 3 of the Drugs and Cosmetics Act (D & CA), 1940 from 1st April, 2020.
- The Medical Devices Parks have been set up in Andhra Pradesh, Telangana, Tamil Nadu and Kerala.In 2020, Kerala established MedSpark, one of the first medical device parks in the country, in Thiruvananthapuram.
- The Government of India recognised medical devices as a sunrise sector under the ‘Make in India’ campaign in 2014.

2.Caste Census

Recently, the Union government has filed an affidavit in the Supreme Court claiming that a caste census of the Backward Classes is administratively difficult and cumbersome.The government’s assertion came in response to a writ petition filed by the State of Maharashtra to gather Backward Classes’ caste data in the State while conducting Census 2021.

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Key Points

Government's Stand Against the Caste Census:

- **Unusable data:** The Centre reasoned that even when the census of castes were taken in the pre-Independence period, the data suffered in respect of "completeness and accuracy".It said the caste data enumerated in the Socio-Economic and Caste Census (SECC) of 2011 is "unusable" for official purposes as they are "replete with technical flaws".
- **Not a Ideal Policy Tool**: The government said caste-wise enumeration in the Census was given up as a matter of policy from 1951.

1. Further, the Centre explained that a population census was not the "ideal instrument as many people may not register themselves in the census in the event of hiding their caste.
2. This may compromise the "basic integrity" of the census.

- **Administratively Difficult:** Besides, the government held that, it is too late now to enumerate caste into the Census 2021.Planning and preparations for the census exercise started almost four years earlier and the preparations of Census 2021 are almost done.

Arguments in Favour of SECC:

- It will be useful to establish statistical justification for preserving caste-based affirmative action programmes or welfare schemes.It may also be a legal imperative, considering that courts want 'quantifiable data' to support the existing levels of reservation.
- Comprehensive exercise to enumerate the caste status of all households in the country will help in identifying poor households and implement anti-poverty programmes.

Census, SECC & Difference

Census:

- The origin of the Census in India goes back to the colonial exercise of 1881.
- Census has evolved and been used by the government, policymakers, academics, and others to capture the Indian population, access resources, map social change, delimitation exercise, etc.
- However, as early as the 1940s, W.W.M. Yeatts, Census Commissioner for India for the 1941 Census, had pointed out that "the census is a large, immensely powerful, but blunt instrument unsuited for specialized inquiry."

SECC:

- SECC was conducted for the first time since 1931.
- SECC is meant to canvass every Indian family, both in rural and urban India, and ask about their:

1. Economic status, so as to allow Central and State authorities to come up with a range of indicators of deprivation, permutations, and combinations of which could be used by each authority to define a poor or deprived person.
2. It is also meant to ask every person their specific caste name to allow the government to re-evaluate which caste groups were economically worse off and which were better off.

- SECC has the potential to allow for a mapping of inequalities at a broader level.

Difference Between Census & SECC:

- The Census provides a portrait of the Indian population, while the SECC is a tool to identify beneficiaries of state support.
- Since the Census falls under the Census Act of 1948, all data are considered confidential, whereas according to the SECC website, "all the personal information given in the SECC is open for use by Government departments to grant and/or restrict benefits to households."

Way Forward

- Although SECC has its own concerns, linking and syncing aggregated Census data to other large datasets such as the National Sample Surveys may help the governments realize the many socio-economic goals.
- Further, independent of census, a preliminary socio-anthropological study can be done at the State and district levels to establish all sects and sub-castes present in the population.
- A caste census may not sit well with the goal of a casteless society, but it may serve as a means of addressing inequities in society.

BIODIVERSITY & ENVIRONMENT

Blue Food

Recently, a report titled Environmental performance of blue foods has stated that the Aquatic or blue foods can be made more environmentally sustainable than they are now.The report is published as part

of the Blue Food Assessment (BFA).The BFA is a collaboration between Sweden-based Stockholm Resilience Centre, United States-based Stanford University and the non-profit EAT.

Key Points

About Blue Foods and its Advantages:

- Blue foods are food derived from aquatic animals, plants or algae that are caught or cultivated in freshwater and marine environments.
- They are found to rank more highly than terrestrial animal-source foods in terms of their nutritional benefits and potential for sustainability gains.Many blue food species are rich in important nutrients like omega-3 fatty acids, vitamins and minerals.
- On average, the major species produced in aquaculture, such as tilapia, salmon, catfish and carp, were found to have lower environmental footprints comparable to terrestrial meat.

About the Report:

- The report has uncovered that Blue foods and the waters in which they grow will have an essential role to play in the shift towards healthy, equitable and sustainable food systems.
- The production of blue food generates the fewest greenhouse gas and nutrient emissions and uses the least land and water.Capture fisheries refers to all kinds of harvesting of naturally occurring living resources in both marine and freshwater environments. These have the potential to reduce greenhouse gas emissions through improved management and optimising gear types.
- Investing in innovation and improving fisheries management could increase consumption even more and have profound effects on malnutrition.
- Promotion of Blue food will help in fulfillment of many Sustainable development Goals (SDG 2 - Nutrition and 14 - Sustainable use of marine resources).

Way Forward

- Small-scale fishers have a huge part of the global seafood system and are incredibly diverse. Therefore, for sustainable production of blue food systems, small scale fishers need to be strengthened.
- Enormous diversity of blue foods carry important nutritional, cultural, economic and environmental value. To realize its potential, policymakers should put in place:

1. Better governance, including participation of small producers, women and other marginalized groups,
2. Better stewardship of the natural resources on which blue foods rely; and
3. Investment in building resilience to climate change.

2.Report on Climate Indicators & Sustainable Development: WMO

Recently, the World Meteorological Organization (WMO) has published a new report on Climate Indicators and Sustainable Development: Demonstrating the Interconnections.WMO studied seven climate indicators — carbon dioxide (CO_2) concentration, temperature, ocean acidification and heat, sea ice extent, glacier melt and sea-level rise.

Key Points

Aim:

- To contribute to the sustainable development agenda and to inspire leaders to take bolder climate action.

Importance:

- In the face of ongoing climate change, poverty, inequality and environmental degradation, understanding the connections between climate and international development is a matter of urgency.
- Increasing temperatures will result in global and regional changes, leading to shifts in rainfall patterns and agricultural seasons. The intensification of El Niño events is also generating more droughts and floods.

Rising CO_2 Concentration:

- The rising concentration of CO_2 will impact all of the 17 United Nations-mandated SDGs.
- Rising CO_2 concentration due to human activities is a key driver of global climate change.

Impact on SDGs:

- Rising CO_2 concentration and increasing global temperatures, if left unchecked, would negatively impact efforts to combat climate change under the SDG 13.This, in turn, would pose a significant threat to the achievement of the 16 SDGs other than SDG 13, by 2030.

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- This would happen because uncontrolled rising CO2 emissions would be indirectly responsible for risks related to the remaining six climate indicators, namely temperature, ocean acidification and heat, sea ice extent, glacier melt and sea-level rise.
- For instance, rising concentrations of CO2 in the atmosphere will lead to reductions in nutrient content, affecting food security or the SDG indicator 2.1.2.This would affect the global goal on tackling poverty, SDG 1, as well.
- Rising CO2 in water would cause ocean acidification, directly affecting SDG indicator 14.3.1 which addresses marine acidity.
- Both food insecurity and loss of livelihood may drive conflicts related to resource management, thus threatening regional peace and stability (SDG 16.1).
- Extreme events attributed to rising temperature affect rainfall patterns and groundwater availability, which leads to a higher risk of water scarcity, directly affecting SDG 6 on access to water and specially the targets.

Suggestions:

To mitigate climate risks, the WMO recommended to work on:

1. Improved education (SDG 4)
2. Global partnerships (SDG 17)
3. Sustainable consumption (SDG 12)

3.Plant Discoveries 2020: BSI

Recently, the Botanical Survey of India (BSI), in its new publication Plant Discoveries 2020 has added 267 new taxa/ species to the country's flora.Earlier, the United Nations Convention on Biological Diversity (CBD) demanded an additional USD 200 billion fund flow to developing countries from various sources to manage nature through 2030.

Key Points

About:

- The new Discovery to the flora of India include 119 species of seed plants, 57 species of fungi, 44 species of lichens, 21 species of algae, 18 species of microbes, five species of bryophytes and three species of fern and fern allies.India has about 45,000 species of plants, already identified and classified, which account for about 7% of the total plant species of the world.About 28% of the Indian plants are endemic to the country.
- **Few examples among the new discoveries are:**

1. Nine new species of balsams (Impatiens) and one species of wild banana (Musa pradhanii) from Darjeeling.
2. One species each of wild jamun (Sygygium anamalaianum) from Coimbatore.
3. Fern species (Selaginella odishana) Kandhamal in Odisha.

Geographical Distribution of Species:

- 22% of the discoveries were made from the Western Ghats followed by Western Himalayas (15%), Eastern Himalayas (14%) and Northeast Ranges (12%).
- The West coast contributed 10% while the East Coast contributed (9%) in total discoveries; Eastern Ghats and South Deccan contributed 4% of each while Central Highland and North Deccan added 3% each.

Significance of the Discovery:

India is a signatory to the 'Convention on Biological Diversity' (CBD) and is committed to work towards a global strategy of plant conservation.Every year, new plant discoveries are compiled and documented by BSI, which plays a central role to fulfil India's global commitment of comprehensive documentation and identification of plant diversity of the country.CBD, a legally binding treaty to conserve biodiversity, has been in force since 1993.

IMPORTANT FACTS FOR PRELIM

Microchip: Smallest Man-Made Flying Structure

Recently, Northwestern University (US) has created an Electronic Microchip or Microflier with the capability of flight. It is the smallest-ever human-made flying structure.

Key Points

About:

- It is about the size of a grain of sand and does not have a motor or engine.
- It catches flight on the wind — much like a maple tree's propeller seed — and spins like a helicopter through the air toward the ground.

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Idea Behind the Design:

- The engineers optimised their design by studying maple trees and other types of wind-dispersed seeds and fashioned the micro flier such that when dropped from a height it would fall at a slow velocity in a controlled manner.This behaviour stabilizes its flight, ensures dispersal over a broad area and increases the amount of time it interacts with the air.
- They designed many different types of micro fliers, including one with three wings, resembling the wings on a tristellateia seed.

Significance:

- It can be packed with ultra-miniaturised technology, including sensors, power sources, antennas for wireless communication and embedded memory to store data.Miniaturization is the trend to manufacture ever smaller mechanical, optical and electronic products and devices.
- It is ideal for monitoring Air Pollution and Airborne Disease.

2.GI Tagged Feni: Goa

Recently, the Goa government's Feni Policy 2021 has paved the way to take the GI (Geographical Indication) Certified Goan Cashew Feni forward at par with other international Liquors such as Mexico's tequila, Japanese Sake and Russia's Vodka.The Goa government in 2016 classified Feni as the Heritage Spirit of Goa.

Key Points

Goan Cashew Feni:

- It is the first liquor product in the country to obtain 'Heritage Drink' status and got its GI certification in 2000. Only the cashew feni has been GI-tagged.
- Feni is a brew made from coconut or cashew fruits and is synonymous with the Goan ethos and identity.
- Feni was first manufactured in Goa in the 1600s, after the Portuguese imported the cashew plant from Brazil to India. There are currently 26 varieties of feni manufactured in Goa.
- It is used in various cultural traditions, cuisines and is well known for its medicinal value also.

Other GI-Tags from Goa: Khola red chilies/Canacona Chillies, spicy Harmal Chillies, Myndoli Banana or Moira Banana, and traditional sweet dish Goan Khaje.

Geographical Indication (GI) Certification:

About:

- GI is an indication used to identify goods having special characteristics originating from a definite geographical territory.It is used for agricultural, natural and manufactured goods.
- The Geographical Indications of Goods (Registration and Protection) Act, 1999 seeks to provide for the registration and better protection of geographical indications relating to goods in India.
- It is also a part of the World Trade Organisation's Trade-Related Aspects of Intellectual Property Rights (TRIPS).

Administered By:

- The Controller General of Patents, Designs and TradeMarks- who is the Registrar of Geographical Indications.
- The Geographical Indications Registry is located at Chennai.

Validity of Registration:

- The registration of a geographical indication is valid for a period of 10 years.
- It can be renewed from time to time for a further period of 10 years each.

3.National Service Scheme Awards

Recently, the President of India conferred the National Service Scheme (NSS) Awards for 2019-20.

Key Points

About:

- Under NSS Awards 2019-20, 42 awardees in different categories such as University or (+2) Councils, NSS Units and their programme officers and NSS volunteers were conferred with these awards.

Establishment:

- The NSS Awards were instituted by the Ministry of Youth Affairs and Sports in 1993-94 on the occasion of the Silver Jubilee Year of National Service Scheme.

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- It recognises and rewards outstanding contributions towards voluntary community service made by universities or colleges, councils, senior secondary, NSS units and programme officers and NSS volunteers to further promote NSS in the country.

Objectives:

- To encourage young NSS student volunteers to develop their personality through community service.
- To encourage the Programme Officers and the Programme Coordinators of NSS for catering the needs of NSS through the NSS volunteers.
- To motivate NSS Volunteers for continuing their selfless service towards community work.

National Service Scheme:

About:

- NSS is a Central Sector Scheme that was launched in 1969 with the objective of developing the personality and character of the student youth through voluntary community service. The ideology of NSS is inspired by the ideals of Mahatma Gandhi.
- Its Motto is Not me but You.

NSS volunteers:

- They work on issues of social relevance through regular and special camping activities – including literacy and education, health, family welfare and nutrition, environment conservation, social service programmes, programmes for the empowerment of women, programmes connected with economic development activities, rescue and relief during calamities, etc.

DAILY ANSWER WRITING PRACTICE

Qns. The alarming rate of sea level rise can have varied yet devastating effects on the coastal states. Examine the vulnerability of India to global warming induced sea level rise. (250 words)

Ans:

Introduction

Sea level rise is an increase in the level of the world's oceans due to the effects of global warming and other factors. According to a draft report of United Nations Intergovernmental Penal on Climate Change destructive changes have already been set in motion. The draft report says that even with most optimistic emission reduction scenario, by the year 2050 many low-lying megacities and small island nations will experience extreme sea level events every year. Report says that the big four – United States of America, China, India and European Union will face most devastating fall out of the ocean and ice related impacts of climate change.

Body

Alarming rate of sea level rise

- Sea levels have risen by between 180 to 200 mm since 1900.
- Nearly5-0.7% of the world's land area is at a risk of episodic coastal flooding by 2100, impacting 2.5-4.1% of the population assuming there are no coastal defences or adaptation measures in place.
- By 2100, the global population potentially exposed to episodic coastal flooding will increase from 128-171 million to 176-287 million.

Consequences of sea-level rise on coastal states

- **Loss of habitat:** Almost 3 billion people are living within 200 km of the coasts and islands all over the world.

1. A sea level rise will lead to loss of habitation and hence leads to de-urbanization.
2. Indonesia is planning to shift its capital from Jakarta, the "world's fastest-sinking city" owing to sinking of land by 25 cm per year.
3. It may also significantly affect tourism and recreation through impacts on landscapes (e.g., beaches), cultural features etc.

- **Agriculture:** SLR will affect agriculture mainly through land submergence, soil and fresh groundwater resources salinisation, and land loss due to permanent coastal erosion, with consequences on production, livelihood diversification and food security.
- **Coastal fisheries and aquaculture**: The negative effects of SLR on fisheries and aquaculture are indirect, through adverse impacts on habitats (e.g., coral reef degradation, reduced water quality in deltas and estuarine environments, soil salinisation, etc.).

- **Impact on Small Island Nations**: Because of small islands' high coastline to land area ratio, most of their human settlements, agricultural lands, and critical infrastructure are at or near the coasts.

Vulnerability of India to global warming induced sea level rise

- As per the study by Hyderabad-based Indian National Centre for Ocean Information Services, Sea levels along the Indian coast are projected to rise between 3.5 inches to 34 inch (2.8 feet) by the end of century due to global warming.
- India's coastal regions, home to about 170 million of the country's 1.4 billion people, are on the front lines of a shifting climate, experiencing sea-level rise, erosion, and natural disasters such as tropical storms and cyclones.The latest evidence of this vulnerability occurred in May 2020, as the strongest storm recorded in decades in the Bay of Bengal—Cyclone Amphan—hit, forcing several million people to evacuate.
- Climate change is expected to inundate significant sections of Mumbai by 2050, impacting millions of people.
- India lost 235 square kilometers of land to coastal erosion between 1990 and 2016, placing people's livelihoods and homes in jeopardy, with flight to safer places occurring voluntarily or, as a last resort, through government intervention.
- Scientific prediction suggests that 36 million Indians are likely to be living in areas experiencing chronic flooding by 2100.
- Sea level around Asia in the North Indian Ocean has increased faster than global average, with coastal area loss and shoreline retreat.
- Similarly, mega cities such as Mumbai, Chennai, and Kolkata are at high risk of flooding and sea-level rise, with millions living in these urban coastal areas likely to be relocated to safer places in the future.In such circumstances, forced migration and displacement would be inevitable in the absence of well-managed, pre-emptive relocation of populations from high-risk areas.

Adaptation measures

- **Integrated coastal management**: It will help in resource management following an integrative, holistic approach and an interactive planning process in addressing the complex management issues in the coastal area.Coastal Regulation Zone notifications issued under Environmental Protection Act, 1986 will help in this integrated management.
- **Community ownership**: Policy makers should engage stakeholders in the early stages of decision-making and throughout the entire decision-making process to enhance overall resilience in coastal areas, while supporting community ownership.
- **Barriers to urban areas:** Rotterdam has offered a model to other cities seeking to combat flooding and land loss. Rotterdam has built barriers, drainage, and innovative architectural features such as a "water square" with temporary ponds.
- **Adaptation to Sea Level Rise**

1. Relocating utility infrastructure, such as treatment plants and pump stations, to higher elevations would reduce risks from coastal flooding.
2. Understanding and modelling groundwater conditions will inform aquifer management and projected water quantity and quality changes.
3. Coastal restoration plans may protect water utility infrastructure from damaging storm surge by increasing protective habitat of coastal ecosystems such as mangroves and wetlands.
4. The injection of fresh water into aquifers can help to act as a barrier, while intrusion recharges groundwater resources.

- **Limiting global warming:** More use of renewable energy (wind, solar) can help reduce carbon emissions. Nations must act fast to attain their NDC's and work on carbon sequestration.

Conclusion

The Paris Agreement provides a clear vision on limiting global warming and thus, Sea level rise. There must be awareness among the representatives of the public, different agencies of the government, scientists, industry and the communities on the threat posed by climate change and the steps to counter it. Sea level rise is a slow disaster that will become magnanimous and all steps must be taken to ensure that such disasters are mitigated.

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DAILY QUIZ

Q1. Consider the following statements regarding the Central Bank Digital Currency (CBDC), or national digital currency:

1. It is the legal tender issued by a central bank in a digital form.
2. It is exchangeable one-to-one with the fiat currency.

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

Q2. Which one of the following statements correctly describes the meaning of legal tender money?

a. The money which is tendered in courts of law to defray the fee of legal cases
b. The money which a creditor is under compulsion to accept in settlement of his claims
c. The bank money in the form of cheques, drafts, bills of exchange, etc
d. The metallic money in circulation in a country

Q3. Consider the following statements about African Swine Fever (ASF):

1. It is a highly contagious and fatal animal disease that infects domestic and wild horses.
2. No commercial vaccines are currently available to prevent the virus from spreading.

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

Q4. It is part of the Deccan Plateau and the vegetation is predominantly of the south Indian moist deciduous teak forests, the sanctuary is now an integral part of the Nilgiri Biosphere Reserve. It is bounded by protected area network of Nagarhole and Bandipur of Karnataka in the northeast, and on the southeast by Mudumalai of Tamil Nadu.

Which of the following protected site is being described in the above passage?

a. Mukurthi National Park
b. Silent Valley National Park
c. Mudumalai National Park and Wildlife Sanctuary
d. Wayanad Wildlife Sanctuary

Q5. Consider the following statements with reference to Parliamentary Privileges in India:

1. Parliamentary privileges are defined in Article 105 of the Indian Constitution.
2. The members of Parliament are exempted from any civil or criminal liability for any statement made or act done in the course of their duties.
3. The privileges are claimed only when the person is a member of the house.

Which of the statements given above is/are correct?

a. 1 and 2 only
b. 3 only
c. 1 and 3 only
d. 1, 2 and 3

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