9th July, 2024

1. Regenerative braking GS 3 (Science and Tech)

- Why in News: Regenerative braking is a system designed to convert the kinetic energy of the wheels to a form that can be stored and used for other purposes.
- About Regenerative Braking:
 - It is a mechanism found on most hybrid and full-electric vehicles.
 - It is also called a **kinetic energy recovery system**.
 - It captures the kinetic energy from braking and converts it into the electrical power that charges the vehicle's high-voltage battery.
 - It also slows the car down, which assists the use of traditional brakes
 - Electric motors, when used in reverse, function as generators and will then convert mechanical energy into electrical energy. Vehicles propelled by electric motors use them as generators when using regenerative braking, braking by transferring mechanical energy from the wheels to an electrical load.
 - With regenerative braking, the energy from your spinning wheels is used to reverse the direction of electricity from the electric motors to the battery.
 - The electric motor not only acts as an electric generator, but it also helps slow your car down because energy is consumed by the wheels as they rotate the shaft in the electric motor.
 - It can improve fuel consumption and reduce the overall braking load taken on by the vehicle's friction brakes, reducing the wear on the brake pads.

2. <u>Integrated Tribal Development Programme</u> GS 2 (Governance)

- Why in News: Recently, the National Bank for Agriculture and Rural Development (NABARD) launched an integrated tribal development programme in the Kulathupuzha grama panchayat in Kerala.
- About Integrated Tribal Development Programme:
 - It is a **flagship programme of NABARD** for sustainable tribal livelihoods.
 - It is based on the 'wadi' model of tribal development, which has evolved with the support of national and international developmental agencies.
 - Projects under this programme are funded through **Tribal Development Fund.**
 - The objective of the Fund is to:
 - create replicable models of integrated development of tribal families on a participatory basis, through the
 adoption of sustainable income-generating activities based on the potential of the area and the tribal needs;
 - build and strengthen tribal institutions, which would enable the communities to be partners in policy formulation, execution of programs and improve social and economic status; and
 - build and strengthen producers' organizations

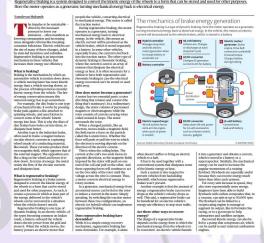
Key facts about NABARD

- It is a **financial institution**that was set up by the Indian government to promote **sustainable agriculture and rural development** in the country.
- It is the main regulatory body in the country's rural banking system.
- **■** Formation:

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- It was established in 1982 as a central regulating body for agriculture financing and the rural section.
- ◆ The government of India established NABARD under the outlines of the National Bank for Agriculture and Rural Development Act 1981.
- **Objective:**Promoting agriculture and rural development through participative financial and non-financial interventions, innovations, technology and institutional development for securing prosperity.

In an electric vehicle, what is regenerative braking?



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■ Activities undertaken by NABARD for rural development include the provision of refinance support, Improving rural infrastructure and Supervision of Regional Rural Banks (RRBs) and Cooperative Banks etc.

3. <u>Biodiversity Beyond National Jurisdiction (BBNJ) Agreement</u> <u>GS 2 (Governance)</u>

- Why in News: Recently, the Union Cabinet, chaired by the Prime Minister of India has approved India to sign the Biodiversity Beyond National Jurisdiction (BBNJ) Agreement.
- About Biodiversity Beyond National Jurisdiction (BBNJ) Agreement:
 - The BBNJ Agreement, or the 'High Seas Treaty', is an international treaty under the United Nations Convention on the Law of the Sea (UNCLOS).
 - It aims to address the growing concerns over the long-term protection of marine biodiversity in the high seas.
 - It sets precise mechanisms for the **sustainable use of marine biological diversity** through international cooperation and coordination. Parties cannot claim or exercise sovereign rights over marine resources derived from the high seas and ensure **fair and equitable sharing** of benefits.
 - It follows an inclusive, integrated, ecosystem-centric approach based on the precautionary principle and promotes using traditional knowledge and the best available scientific knowledge.
 - It helps minimise impacts on the marine environment through area-based management tools and establishes rules for conducting environmental impact assessments. It would also contribute to achieving several SDGs, particularly SDG14 (Life Below Water).
 - ◆ The BBNJ Agreement will be the **third implementation agreement** under UNCLOS if and when it enters into force, alongside its sister implementation agreements: the **1994 Part XI Implementation Agreement** (which addresses the exploration and extraction of mineral resources in the international seabed area) and the **1995 UN Fish Stocks Agreement** (which addresses the conservation and management of straddling and highly migratory fish stocks).
 - The BBNJ Agreement was agreed **upon in March 2023** and is open for signature for two years starting September 2023.
 - It will be an international legally binding treaty after it enters force 120 days after the 60th ratification, acceptance, approval or accession.

4. Project PARI GS 2 (Governance)

- Why in News: The Ministry of Culture, Government of India, on the occasion of the 46th Session of the World Heritage Committee Meeting, which is being held in New Delhi from 21st-31st July 2024, has initiated Project PARI (Public Art of India).
- About Project PARI:
 - The **Project PARI (Public Art of India)** aims to stimulate dialogue, reflection, and inspiration, contributing to the dynamic cultural fabric of the nation.
 - It provides a platform to uplift the aesthetic and cultural outlook of Delhi while adding grandeur to the rich historical legacy of our national capital.
 - The representation of Art in public spaces is particularly significant as it showcases the nation's rich and diverse cultural heritage.
 - The proposed sculptures being created for Project PARI include wide-ranging ideas such as paying tributes to nature, ideas inspired by the Natyashastra, Gandhi ji, toys of India, hospitality, ancient knowledge, Naad or Primeval Soun, Harmony of life, Kalpataru the divine tree, etc.
 - Women artists have been an integral part of Project PARI and their participation in large numbers is a testimony of **Bharat's NARI SHAKTI.**
 - This initiative is being executed by the **Lalit Kala Akademi**, an autonomous institution under the Ministry of Culture.

5. India to sign, ratify High Seas Treaty **GS 2 (Governance)**

Why in news:

- India has decided to sign and ratify the High Seas Treaty, a global agreement for conservation and protection of biodiversity in the oceans.
- The High Seas Treaty, also known as the agreement on Biodiversity Beyond National Jurisdictions (BBNJ), was negotiated in March 2023.

High seas

- The high seas are the parts of the ocean that are not included in the exclusive economic zones, territorial sea or internal waters of a State.
 - Water beyond 200 nautical miles from the coast of a country is known
- High seas are the areas of the ocean for which no one nation has sole responsibility for management.

Need for UN high seas treaty

Ocean and biodiversity

- The high seas comprise 64 per cent of the ocean surface, and about 43 per cent of the Earth.
- These areas are home to about 2.2 million marine species and up to a trillion different kinds of microorganisms.

Ocean and global climate

Oceans are an integral part of the global climate cycle, and perform a range of ecological services including absorption of carbon dioxide and

Hence, this treaty is being considered as a landmark in the efforts to keep the planet habitable.

■ Unregulated human activities

- Climate change is already influencing, and is being influenced by, ocean systems, and is exacerbating the pressures on marine biodiversity from unregulated human activities.
- ◆ It is these specific challenges a combination of climate change, biodiversity, and pollution that the High Seas Treaty seeks to address.

■ UNCLOS and concerns regarding the biodiversity

- UNCLOS.
 - Change (UNFCCC).

UN high seas treaty

- jurisdictions (BBNJ).
 - the use and management of the world's oceans and their resources.
- This treaty is the first international law to offer some protection to the nearly two-thirds of the ocean that is
- This treaty will be legally binding in nature.

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■ Demarcation of marine protected areas (MPAs)

MPAs are where ocean systems, including biodiversity, are under stress, either due to human activities or climate change.

India to sign, ratify High Seas Treaty: Minister

EXPRESS NEWS SERVICE

ratify the High Seas Treaty, a global agreement for conservation and protection of biodiversity in the oceans, that is often compared to the 2015 Paris Agreement in its

me 2015 Paris Agreement in its reach and impact. The High Seas Treaty, also known as the agreement on Biodiversity Beyond National Jurisdictions (BBNJ), was negotiated in March last year. "India re-mains committed and proactive mains committed and proactive to the global cause of environ-mental conservation and sustain-able development. We will be signing (the BBN) Agreement) and are propitious of subse-quently ratifying it through the necessary legislative processes; Science and Technology Ministre Jitendra Singh said on Monday of Disassient benedesement of the

Jitendra Singh said on Monday of following the endorsement of the treaty by the Cabinet on July 2. "The government is aligned to scientific progress, strengthening international collaboration, and promoting governance, transparency, accountability and the rule of law," Singh said.

The High Seas, the oceans outside the national boundaries of countries, are international commons, open for use by all. The resources found in these ar-

eas, which constitute about ook of the ocean surface, are open for extraction by anyone. The exact activities, and the manner in which they can be carried out, are governed by international and regional laws. Most notable and utiles, regions of the laws is and wide-ranging of the laws is the UN Convention on the Law of the Seas, or UNCLOS, which defines the rights and duties of the country, and lays down the general principles of acceptable conduct in the oceans.

The High Seas Treaty, once it is ratified by the requisite number of countries and becomes international law, would operate ternational law, would operate under the UNCLOS framework, and become one of its imple-menting instruments. Among other things, the High Seas Treaty would define and de-

marcate marine protected areas in biodiversity-rich zones of the oceans that are under stress

The treaty also seeks to en-sure that any benefits accruing from ocean life forms, like drug development, is considered a global common, is free of intel-lectual reports rights and equilectual property rights and equi-tably shared with everyone.

The treaty would become international law 120 days after at least 60 countries submit their rat-ification documents. Of now, 91 countries have signed the treaty, but only eight have ratified it.

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- ◆ Though UNCLOS asks countries to protect the ocean ecology and conserve its resources, it does not provide the specific mechanisms or processes to do so.
 - Hence, it is believed that the High Seas Treaty will work as an implementation agreement under the
 - This is similar to the Paris Agreement working under the UN Framework Convention on Climate

- Agreed under the UNCLOS, this treaty is commonly known as the agreement on biodiversity beyond national
 - UN Convention on the Law of the Sea (UNCLOS) is an international treaty that establishes a framework for
 - ◆ It was adopted by the United Nations in 1982 and came into force in 1994.
- beyond national control.

Key provisions of the treaty

- - These can be called the national parks or wildlife reserves of the oceans.

- Activities in these areas will be highly regulated, and conservation efforts similar to what happens in forest or wildlife zones, will be undertaken.
- ◆ Only about 1.44 per cent of high seas are currently protected, according to the International Union for Conservation of Nature (IUCN).
- ◆ In December 2022, at the meeting of the Convention on Biodiversity (CBD) in Montreal, Canada, countries had agreed to put at least 30 per cent of degraded coastal and marine ecosystems under effective restoration by 2030.
 - MPAs will be helpful in achieving this objective.

■ Sustainable use of marine genetic resources and equitable sharing of benefits arising from them

- ◆ Genetic information from marine organisms is already being extracted, and their benefits are being investigated.
- ◆ The treaty seeks to ensure that any benefits arising out of such efforts, including monetary gains, are free from strong intellectual property rights controls, and are equitably shared amongst all.
- ◆ The knowledge generated from such expeditions are also supposed to remain openly accessible to all.

■ Initiation of the practice of environmental impact assessments for all major activities in the oceans

- The high seas are international waters that are open for use by all countries.
- ◆ Under the new treaty, commercial or other activities that can have significant impact on the marine ecosystem would require an environmental impact assessment to be done.
- ◆ The results of this exercise have to be shared with the international community.

■ Capacity building and technology transfer

This will help small island states and landlocked nations, who do not have the resources or the expertise, to meaningfully participate in the conservation efforts.

■ Creation of New body

The treaty will create a new body to manage conservation of ocean life and establish marine protected areas in the high seas.

Status of the treaty

- The treaty would become international law 120 days after at least 60 countries submit their formal ratification documents.
- As of now, 91 countries have signed the treaty, but only eight of them have ratified and made the submission.

India to sign, ratify High Seas Treaty

- India has decided to sign and ratify the High Seas Treaty.
- The High Seas Treaty, once it is ratified by the requisite number of countries and becomes international law, would operate under the UNCLOS framework, and become one of its implementing instruments.
 - ◆ The UN Convention on the Law of the Seas, or UNCLOS, defines the rights and duties of the country, and lays down the general principles of acceptable conduct in the oceans.
 - ◆ There are already two similar agreements under UNCLOS:
 - one that regulates the extraction of mineral resources from ocean beds, and
 - the other about conservation of migratory fish stocks.

6. PLI Scheme for White Goods

GS 3 (Economy)

- Why in News: According to the Department for Promotion of Industry and Internal Trade (DPIIT), the government will reopen the application window for the production-linked incentive (PLI) scheme for white goods.
- What are White Goods?
 - White goods or consumer durables encompass significant household appliances, including -
 - Air conditioners (ACs), LED lights, dishwashers,
 - Clothes dryers, drying cabinets,
 - Freezers, refrigerators,
 - ◆ Kitchen stoves, water heaters, microwave ovens, induction cookers, and
 - Washing machines.
 - India allows 100% foreign direct investment (FDI) under the automatic route into the consumer durable goods manufacturing industry.

- The white goods industry in India has exhibited robust growth in recent years, with an estimated market value of US\$13.66 billion in the fiscal year 2021.
 - ◆ Within this industry, the most substantial market shares were captured by ACs, refrigerators, and LED
- India's white goods market is projected to surpass US\$21 billion by 2025, at a compound annual growth rate (CAGR) of 11%.

What are PLI Schemes?

- The PLI Schemes are a strategic initiative by the Government of India, aligned with the vision of 'Atmanirbhar Bharat' (or Self-Reliant India).
- The core objectives of the PLI Schemes are to
 - ◆ Improve efficiency, foster economies of scale within the manufacturing sector.
 - Position Indian manufacturers as globally competitive, thereby facilitating their integration into global value chains, and
 - Foster domestic manufacturing as a catalyst for India's economic growth and employment generation.
- The PLI Schemes involve significant financial allocations, with a total outlay of INR 1.97 trillion (over US\$26 billion) for 13-14 key sectors.
- All sectors approved under the PLI Schemes adhere to a broad framework centered around new and emerging technologies.

What is the PLI Scheme for White Goods?

- It was approved by the Union Cabinet on 7th April, 2021 (and was notified by the DPIIT on 16th April, 2021).
- The scheme is to be implemented over a 7 years period (from FY 2021-22 to FY 2028-29) and has **an outlay of ₹ 6,238 crore**.
- It is designed to create a complete component ecosystem for Air Conditioners and LED Lights Industry in India and make India an integral part of the global supply chains.
- With the launch of this scheme, domestic value addition (for the white goods) is expected to grow from the current 15-20% to 75-80%.
- So far, 66 applicants with committed investment of Rs. 6,962 crores have been selected as beneficiaries under the
- Leading consumer durable brands Daikin, Panasonic, Havells, and Syska are among the beneficiaries of the PLI White Goods Scheme.

7. Hurricane Beryl's record early intensification **GS 3 (Environment)**

Why in news:

Hurricane Beryl became the earliest storm on record during the Atlantic hurricane season to have reached the highest Category 5 classification. How climate change fuelled Hurricane Beryl's record early intensification

■ Earlier this month, it devastated the Caribbean islands causing intense floods and dangerous winds in Jamaica, Grenada, Saint Vincent and the Grenadines, and northern Venezuela, resulting in at least 11 deaths.

storm, flooding streets and causing power outages for over two million people in the state.

On July 8, Beryl made landfall in Texas as a Category 1

Hurricane

- A hurricane is a powerful and destructive tropical storm characterized by strong winds, heavy rainfall, and low atmospheric pressure.
- Hurricanes are also known as cyclones or typhoons in different parts of the world; the term used depends on the region.

Govt reopens application window for white goods PLI

MUKESHJAGOTA

THE GOVERNMENT on Monday reopened the window for fresh applications from companies will-ing to invest under the produc-tion-linked incentive (PLI) scheme non-insectincentive (VI) science for white goods and shifted to a system of quarterly processing of incentive claims for the sector. This will be the third round of ap-plications under the scheme. Quarterly release of the incen-tives may be made applicable to other sectors covered by the PULas well recomposition.

The PLI scheme for white The PLI scheme for white goods is to run from 2021-22 to 2028-29, with an outlay of Rs 6,238 crore. In the third and latest round of applications, existing beneficiaries can also apply if they propose to invest more by way of beneficiaries can also apply if they propose to invest more by way of switching over to higher target segments of their group companies applying under different target segments, a statement by the Ministry of Commerce and Industry said.

The shift from annual to quarterly settlement of incentive dains will enable the beneficiary companies to maintain liquidity in the business, better working capital management, and enabled.

nce their operational efficiency.

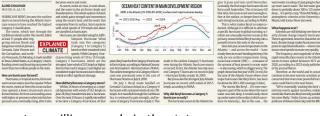
PLI for white goods, which in-dudes air-conditioners and their parts and LED lights, is run by the

ACs. LED LIGHTS

their parts and LED lights, is run by

Department for Promotion of Industry and Internal Trade (DPIT). Quarterly settlement of claims would in some way also address the complaints of slow offtake of incentiv es. According to data, of the Rs 1.97 trillion av data, of the Rs 197 million avail-able for incentives, only 5 percent or around Rs 9,700 crore has been disbursed till March 2024. The earlier rounds of applica-tions for white goods PLI divided the companies into two groups—

the companies into two groups— those who oped for gestation period of up to March 2022 and some who opted for March 23. For new applicants and exist-ing beneficiaries opting for an in-vestment period up to March 2023 and seeking to move to a higher investment category, the benefits will be available for a maximum of three years. Beneficiaries opting for the inves-ment period up to March 2022 seeking to move to higher invest-ment category in the proposed ment category in the proposed third round would be eligible for PLI for maximum two years only, the statement said.



■ In the **Atlantic Ocean and eastern North Pacific**, they are called hurricanes, while in the **northwestern Pacific**, they are referred to as typhoons, and in the **South Pacific and Indian Ocean**, they are known as cyclones.

Key characteristics of hurricanes

■ Low Pressure Centre

- ◆ Hurricanes have a well-defined centre of low atmospheric pressure, known as the eye.
- ◆ The eye is typically calm and clear, with light winds, surrounded by a ring of intense thunderstorms called the eyewall.

■ Strong Winds

◆ Hurricanes are known for their powerful winds that can reach sustained speeds of at least 74 miles per hour (119 kilometers per hour) or higher.

■ Heavy Rainfall

♦ Hurricanes produce heavy rainfall, which can lead to flooding, landslides, and storm surges (a rise in sea level along the coast caused by the hurricane's winds pushing water toward the shore).

■ Formation

- ◆ Hurricanes form over warm ocean waters when the sea surface temperature is typically above 26 degrees Celsius (79 degrees Fahrenheit).
- ♦ Warm, moist air rises from the ocean's surface, creating an area of low pressure.
- ◆ As the air cools and condenses, it releases heat, which fuels the storm's development.

Categories

- Hurricanes are categorized on the Saffir-Simpson Hurricane Wind Scale based on their maximum sustained wind speeds.
- ◆ The scale ranges from Category 1 (weakest) to Category 5 (strongest), with each category representing a higher wind speed and potential for damage.
 - Category 1 hurricanes bring winds of 119 to 153 kmph, Category 5 hurricanes, which are the strongest, have winds of 252 kmph or higher.
 - Storms that reach Category 3 and higher are considered major hurricanes due to their potential to inflict significant damage.

Beryl's record early intensification

- Within 24 hours of emerging as a tropical depression with winds of 56.3 kmph on June 28, Beryl transformed into a hurricane.
- Over the next 24 hours, it rapidly intensified to become a Category 4 hurricane.
 - ◆ At that point, Beryl was the first Category 4 hurricane to form in June.
 - The earliest emergence of a Category 4 hurricane was previously seen in the case of Hurricane Dennis in July 2005.
- On July 1, Beryl made landfall on Grenada's Carriacou Island as a Category 4 hurricane with sustained winds of over 241 kmph.
- As it travelled through the Caribbean Sea, it continued to gain strength, and became a Category 5 hurricane on July 2.
- This made it the earliest Category 5 hurricane seen during the Atlantic hurricane season on record.
- Beryl was also the strongest July Atlantic hurricane on record, with winds of 265.5 kmph, according to NOAA.

Why did Beryl become a Category 5 hurricane so early?

- The Atlantic hurricane season, lasting from June to November, typically sees its first major hurricanes in September due to the gradual warming of ocean waters, according to NOAA.
- Hurricane Beryl is unprecedented because it formed as a powerful storm much earlier, attributed to unusually warm ocean temperatures.
- Since 2023, both sea surface temperatures and ocean heat content (OHC) have been at record highs, a trend reflected in this year's OHC being significantly above the 2013-2023 average.
- Atmospheric scientists highlight that the **depth of the warm water**, **extending 100 to 125 meters**, **prevents cooler water from surfacing**, thus sustaining Beryl's intensity.

MCQ Current Affairs 9th July, 2024

1. Biligiri Ranganathaswamy Temple Tiger Reserve (BRT) lies in which one of the following states?

- a) Odisha
- b) Maharashtra
- c) Karnataka
- d) Kerala

2. Sentinel Nuclear Missile, recently seen in the news, was developed by which one of the following countries?

- a) United States of America
- b) Israel
- c) Germany
- d) Japan
- 3. Panchganga River is a tributary of which one of the following rivers?
- a) Ganga
- b) Godavari
- c) Kaveri
- d) Krishna

4. Consider the following statements with reference to the Regenerative braking:

A. It captures the kinetic energy from braking and converts it into the electrical power that charges the vehicle's high voltage battery.

B. It can improve fuel consumption and reduce the overall braking load taken on by the vehicle's friction brakes. Which of the statements given above is/are correct?

- a) A only
- b) B only
- c) A and B
- d) Neither of two

5. Chandravalli cave, recently in news, is located in:

- a) Andhra Pradesh
- b) Tamil Nadu
- c) Maghalaya
- d) Karnataka

Answers Current Affairs 9th July, 2024

