

Answers

1) D

Blue Carbon

- The coastal ecosystems of mangroves, tidal marshes and sea grass meadows contain large stores of carbon deposited by vegetation and various natural processes over centuries.
- These ecosystems store more carbon – often referred to as ‘blue carbon’ – per unit area than terrestrial forests.
- The ability of these vegetated ecosystems to remove carbon dioxide (CO₂) from the atmosphere makes them significant net carbon sinks, and they are now being recognized for their role in mitigating climate change.
- If the ecosystems are degraded by human activities, their carbon sink capacity is lost, and the carbon stored in the soil is released, resulting in CO₂ emissions that contribute to climate change.
- India’s Sundarbans National Park is among five sites that have the highest blue carbon stocks globally.

2) D

Trade Related Aspects of Intellectual Property Rights (TRIPS)

- TRIPS came into force in 1995, as part of the agreement that established the World Trade Organization (WTO).
- TRIPS establishes minimum standards for the availability, scope, and use of seven forms of intellectual property namely, trademarks, copyrights, geographical indications, patents, industrial designs, layout designs for integrated circuits, and undisclosed information or trade secrets.
- It is applicable to all WTO members.
- TRIPS Agreement lays down the permissible exceptions and limitations for balancing the interests of intellectual property with the interests of public health and economic development.
- It frames the IP system in terms of innovation, technology transfer and public welfare.
- The TRIPS Council is responsible for administering and monitoring the operation of the TRIPS Agreement.
- TRIPS agreement was negotiated during the Uruguay Round of the General Agreement on Tariffs and Trade (GATT) in 1986–1994.

- The TRIPS Agreement is also described as a “Berne and Paris-plus” Agreement.

3) A

Samudrayan Project

- India’s First Manned Ocean Mission.
- India joins the elite club of nations such as USA, Russia, Japan, France and China to have such underwater vehicles for carrying out subsea activities.
- It comes under the ‘Ministry of Earth Science’.
- It helps in carrying out deep ocean exploration of the non-living resources such as polymetallic manganese nodules, gas hydrates, hydro-thermal sulphides and cobalt crusts, located at a depth between 1000 and 5500 meters.
- It will be a part of the ‘Deep Ocean Mission’.
- The preliminary design of the manned submersible MATSYA 6000 is completed and realization of vehicle is started with various organization including ISRO, IITM and DRDO.
- The indigenously developed vehicle is capable of crawling on the sea bed at a depth of six km for 72 hours.
- The manned submersible is designed to carry three persons in 2.1 meter diameter Titanium Alloy Personnel Sphere with an operational endurance of 12h and systems to support emergency endurance up to 96h.
- Pressure compensated batteries and propulsion system, control and communication systems and Launching and Recovery System.
- System design, concept of operation, subcomponents functionality and integrity, emergency rescue, failure mode analysis are reviewed and certified as per the rules of ‘International Association of Classification and Certification Society’ for man-rated usage of manned submersible at a depth of 6000 meters.
- The recent Fendouzhe manned submersible developed by China in 2020 has touched ~11000m water depths.

4) D

Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)

The Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA), also known as Mahatma Gandhi National Rural Employment Guarantee Scheme (MNREGS) is Indian legislation enacted on August 25, 2005.

The MGNREGA provides a legal guarantee for one hundred days of employment in every financial year to adult members of any rural household willing to do public work-related unskilled manual work at the statutory minimum wage.

The Ministry of Rural Development (MRD), Government of India is monitoring the entire implementation of this scheme in association with state governments.

This act was introduced with an aim of improving the purchasing power of the rural people, primarily semi or un-skilled work to people living below poverty line in rural India.

5) B

Indian Dolphins

Gangetic Dolphins

- Gangetic dolphins in general are blind and catch their prey using ultrasonic sound waves.
- Killing the Gangetic River Dolphin is a punishable offence under the Wildlife Protection Act, 1972.
- Ganges river dolphins live in the Ganges-Brahmaputra-Meghna and Karnaphuli-Sangu river systems of Nepal, India, and Bangladesh.
- The Ganges river dolphin can only live in freshwater and is essentially blind.
- It has been declared endangered under the International Union for the Conservation of Nature (IUCN).
- Vikramshila Gangetic Dolphin Sanctuary is in the state of Bihar.

Indus Dolphins

- Indus river dolphins are one of only four river dolphin species and subspecies in the world that spend all of their lives in freshwater.
- The Indus river dolphin is the second most endangered freshwater river dolphin.
- At present, there are only around 1,800 of these in the Indus in Pakistan. Their population in the Beas River is between 8 to 10.
- IUCN status: Endangered.
- Punjab Government has declared the Indus river dolphin as Punjab's state aquatic animal in 2019.

6) D

- Mr Modi made the pledge as one of five commitments from his country.

- Indian PM Narendra Modi announced the five major commitments on behalf of India, to mitigate climate change.
- Terming the commitments as "Panchamrit", India's gift to the world, the PM reiterated that India is working very hard on tackling climate change-related issues.

Panchamrit (5 commitments)

- India will achieve net-zero emissions by 2070
- India will bring its non-fossil energy capacity to 500 GW by 2030
- India will bring its economy's carbon intensity down to 45 per cent by 2030
- India will fulfill 50 per cent of its energy requirement through renewable energy by 2030
- India will reduce 1 billion tonnes of carbon emissions from the total projected emissions by 2030

7) B

India's Net Zero Emissions

- India will achieve Net Zero Emissions latest by 2070, Prime Minister Narendra Modi said at the COP26 summit in Glasgow.
- Until the recent commitment made, India was the only major emitter that hadn't committed to a timeline to achieve net zero.

Net Zero Emissions

- Net Zero is a commitment which sets a year by which it would ensure its net carbon dioxide emissions would be zero.
- It is also referred to as carbon-neutrality.
- It does not mean that a country would bring down its emissions to zero.
- Rather, net-zero is a state in which a country's emissions are compensated by absorption and removal of greenhouse gases from the atmosphere.
- Absorption of the emissions can be increased by creating more carbon sinks such as forests, while removal of gases from the atmosphere requires futuristic technologies such as carbon capture and storage.
- This way, it is even possible for a country to have negative emissions, if the absorption and removal exceed the actual emissions.
- A good example is Bhutan which is often described as carbon-negative because it absorbs more than it emits.

- Several other countries, including the UK and France, have already enacted laws promising to achieve a net-zero emission scenario by the middle of the century.
- The European Union is working a similar Europe-wide law, while many other countries including Canada, South Korea, Japan and Germany have expressed their intention to commit themselves to a net-zero future.
- China has promised to go net-zero by 2060.

8) C

India has officially endorsed a website, made by the Indian climate experts, that lists the historical carbon dioxide emissions of developed countries. The website is intended to debunk the narrative provided by many developed countries, and global non-government organisations that focus attention continually on what developing countries must do, constantly demanding greater commitment and action from them.

Climate Equity Monitor (CEM)

- It is an online dashboard for assessing equity in climate action in relation to climate mitigation, energy and resource consumption, and climate policy across the entire world.
- CEM is believed to be the first such initiative from the global South that will compare the policies and actions of Annex-I and Non Annex-I Parties from the perspective of equity and CBDR-RC.
- The database aims to highlight the disparity between the emissions of developed and developing countries with countries including the United States, Canada, Australia and in Western Europe shown as having a net carbon debt while developing countries, including India and China, having net credit.
- The key fact that the database highlights is that it is only fair that developed countries must commit to steeper targets towards curbing emissions than developing countries.
- The website and data tracker is an effort undertaken by the Climate Change Group at the M.S. Swaminathan Research Foundation (MSSRF), Chennai.
- The analysis and assessment for the website has been carried out by the Climate Change Group at the MSSRF, some members of the Energy, Environment & Climate Change Programme at the National Institute for Advanced Studies (NIAS) Bengaluru, and other independent researchers.

9) A

Leaders at the CoP-26 global climate conference in Glasgow have pledged to stop deforestation by the end of the decade and slash emissions of the potent greenhouse gas methane to help slow climate change.

Global Methane Pledge

- It is a joint effort led by the United States and European Union.
- It aims to slash emissions of the potent greenhouse gas methane 30% by 2030 from 2020 levels.
- The Global Methane Pledge, first announced in September, 2021 now covers emissions from two-thirds of the global economy.
- Nearly 90 countries have joined effort to slash emissions of methane.
- Among the new signatories was Brazil - one of the world's biggest emitters of methane.
- The pledge now includes six of the world's 10 biggest methane emitters: the United States, Brazil, Indonesia, Nigeria, Pakistan and Mexico.
- China, Russia, India and Iran, also top-10 methane emitters, have not signed up.
- Australia has said it will not back the pledge.
- Those countries were all included on a list identified as targets to join the pledge.
- The 30% methane cut, which is not legally binding, would be jointly achieved by the signatories, and cover all sectors. Key sources of methane emissions include leaky oil and gas infrastructure, old coal mines, agriculture and landfill sites.

Background

Methane breaks down in the atmosphere faster - meaning that cutting methane emissions can have a rapid impact in reining in global warming. A U.N. report in May said steep cuts in methane emissions this decade could avoid nearly 0.3 degree Celsius of global warming by the 2040s.

10) C

Methane & Carbon dioxide

Methane is more short-lived in the atmosphere than carbon dioxide but 80 times more potent in warming the earth. Cutting emissions of the gas, which is estimated to have accounted for 30% of global warming since pre-industrial times, is one of the most effective ways of slowing climate change.