

ForumIAS

F

Prelims Marathon

13 Sept to 19 Sept 2021

*HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT*

Environmental Organizations

Q.1) CPCB has an automatic monitoring station at ITO Intersection in New Delhi. Which of the following is/are monitored at this station?

1. Suspended Particulate Matter (SPM)
2. Carbon Monoxide
3. Nitrogen Dioxide

Select the correct answer using the codes given below:

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

ANS: D

Explanation: CPCB has an automatic monitoring station at ITO Intersection in New Delhi.

- At this station Resirable Suspended Particulate Matter (RSPM), Carbon Monoxide (CO), Ozone (O₃), Sulphur Dioxide (SO₂), Nitrogen Dioxide (NO₂) and Suspended Particulate Matter (SPM) are being monitored regularly.
- This information on Air Quality at ITO is updated every week.

Source: <https://cpcb.nic.in/Introduction/>

Q.2) Consider the following statements regarding The Energy and Resources Institute (TERI):

1. It was founded by R K Pachauri.
2. It acts as a knowledge center to cultivate action-oriented research in areas of climate change, environment, energy, and sustainable development.

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

ANS: C

Explanation: Founded in 1974 by Mr Darbari S Seth & Dr R K Pachauri, TERI began as a knowledge center to cultivate action-oriented research in areas of climate change, environment, energy, and sustainable development.

- Over the last 40 years, the organization has worked with the government to create policies for energy conservation.
- On the other hand, it has worked at the grassroots, developing energy efficiency solutions for India's small and medium businesses.
- TERI has also worked intensively towards developing lighting and cooking solutions that have impacted over 4.5 million people in India and Africa.
- It has pioneered the use of biotechnology in the petroleum and agriculture sectors in India.
- It is globally distinguished for hosting the World Sustainable Development Conference, one of the largest international summits dedicated to accelerating the pursuit of sustainable development.

Source: <https://www.teriin.org/history>

Q.3) Consider the following statements regarding Forest Survey of India (FSI):

1. It was established before the Independence of India.
2. It is a premier national organization under Ministry of Environment.

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

ANS: B

Explanation: Forest Survey of India (FSI), is a premier national organization under the union Ministry of Environment and Forests, responsible for assessment and monitoring of the forest resources of the country regularly.

- In addition, it is also engaged in providing the services of training, research and extension.
- Established on June 1 - 1981, the Forest Survey of India succeeded the "Pre-investment Survey of Forest Resources" (PISFR), a project initiated in 1965 by Government of India with the sponsorship of FAO and UNDP.
- The main objective of PISFR was to ascertain the availability of raw material for establishment of wood based industries in selected areas of the country.
- In its report in 1976, the National Commission on Agriculture (NCA) recommended for the creation of a National Forest Survey Organization for a regular, periodic and comprehensive forest resources survey of the country leading to creation of FSI.
- After a critical review of activities undertaken by FSI, Government of India redefined the mandate of FSI in 1986 in order to make it more relevant to the rapidly changing needs and aspirations of the country.

Source: <https://fsi.nic.in/brief-history>

Q.4) Consider the following statements regarding the National Biodiversity Authority (NBA):

1. It was established in 2003 by the Central Government to implement India's Biological Diversity Act (2002).
2. Its headquarters is located in New Delhi.

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

ANS: A

Explanation: The National Biodiversity Authority (NBA) was established in 2003 by the Central Government to implement India's Biological Diversity Act (2002).

- The NBA is a statutory body and that performs facilitative, regulatory and advisory function for Government of India on issue of Conservation, sustainable use of biological resource and fair equitable sharing of benefits of use.
- The NBA with its Headquarters in Chennai, Tamil Nadu, India delivers its mandate through a structure that comprises of the Authority, secretariat, SBBs, BMCs and Expert Committees.
- Since its establishment, NBA has supported creation of SBBs in 28 States, facilitated establishment of around 2, 05,794 BMCs, and advised notification.

Source: <http://nbaindia.org/content/16/14/1/introduction.html>

Q.5) Consider the following statements regarding National Tiger Conservation Authority (NTCA):

1. It has been constituted under Wildlife Protection Act, 1972.
2. It is headed by President of India.

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

ANS: A

Explanation: The National Tiger Conservation Authority (NTCA) has been constituted under section 38 L (1) of Wildlife (Protection) Act, 1972.

- Further, as per the section 38 L, sub section 2 of the said Act, the authority consists of the Minister in charge of the Ministry of Environment and Forests (as Chairperson), the Minister of State in the Ministry of Environment and Forests (as Vice-Chairperson), three members of Parliament, Secretary, Ministry of Environment and Forests and other members.
- The authority derives its power from section 38 O (1) of WIPA, 1972 and functions under the guidance of Chairperson, Vice-Chairperson and members.

Source: <https://ntca.gov.in/about-us/#ministers>

Q.6) Consider the following statements regarding National Ganga River Basin Authority (NGRBA):

1. It was constituted under the provisions of the Environment (Protection) Act (EPA), 1986.
2. National Mission for Clean Ganga (NMCG) acted as implementation arm of NGRBA.

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

ANS: C

Explanation: National Mission for Clean Ganga(NMCG) was registered as a society on 12th August 2011 under the Societies Registration Act 1860.

- It acted as implementation arm of National Ganga River Basin Authority (NGRBA) which was constituted under the provisions of the Environment (Protection) Act (EPA), 1986.
- NGRBA has since been dissolved with effect from the 7th October 2016, consequent to constitution of National Council for Rejuvenation, Protection and Management of River Ganga (referred as National Ganga Council) vide notification no. S.O. 3187(E) dated 7th October 2016 under EPA 1986. >> (Amendment) Order, 2nd September 2019

Source: https://nmcg.nic.in/about_nmcg.aspx

Q.7) Consider the following statements regarding Animal Welfare Board of India:

1. It was established at the time of Prime Minister Indira Gandhi.
2. It was established through Statutory Act.

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

ANS: B

Explanation: The Animal Welfare Board of India is a statutory advisory body on Animal Welfare Laws and promotes animal welfare in the country.

- Established in 1962 under Section 4 of the Prevention of Cruelty to Animals Act, 1960 (No. 59 of 1960), the Animal Welfare Board of India was started under the stewardship of Late Smt. Rukmini Devi Arundale, well known humanitarian.
- From ensuring that animal welfare laws in the country are diligently followed, to provide grants to Animal Welfare Organizations and advising the Government of India on animal welfare issues, the Board has been the face of the animal welfare movement in the country for the last 50 years.
- The Board consists of 28 Members. The term of office of Members is for a period of 3 years.

Source: <http://www.awbi.in/about.html>

Q.8) “Central Zoo Authority” was established under which of the following Act?

- a) Wildlife Protection Act, 1972
- b) Forest Conservation Act, 1980
- c) Biological Diversity Act, 2002
- d) National Green Tribunal Act, 2010

ANS: A

Explanation: The Central Zoo Authority has been constituted under the section 38A of Wild Life (Protection) Act 1972.

- The Authority consists of a Chairman, ten members and a Member Secretary.
- The main objective of the authority is to complement the national effort in conservation of wild life.

Source: <http://cza.nic.in/page/en/introduction>

Q.9) Consider the following statements regarding India Biodiversity Awards:

1. It was launched in 2012 to recognize excellence in biodiversity governance across the country.
2. It was launched by Ministry of Environment with the help of UNEP.

Which of statements given above is/are correct?

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

ANS: A

Explanation: India is one of the mega-diverse countries in the world and home to nearly eight percent of the world’s total recorded species of plants and animals.

- Across the country, people, communities and governments have played an outstanding and innovative role in conserving India’s rich heritage.
- Government of India, Ministry of Environment, Forest and Climate Change in association with UNDP India, therefore, started the India Biodiversity Awards in 2012, to recognize excellence in biodiversity governance across the country.

PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER THIRD WEEK, 2021

- The first round of Awards was launched in 2012 during India's Presidency of the Eleventh Meeting of Conference of Parties to the Convention on Biological Diversity.
- The award selection process is conducted in partnership with the National Biodiversity Authority of India.

Source: The Hindu

Q.10) Which of the following institution (s) is/are collaborated to establish UN – REDD programme?

1. UNEP
2. FAO
3. GEF

Select the correct answer using the code given below:

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

ANS: B

Explanation: Three UN Agencies – United Nations Environment Programme (UNEP), United Nations Development Programme (UNDP) and Food and Agriculture Organization of the United Nations (FAO) – have collaborated in the establishment of the UN-REDD programme, a multi-donor trust fund that allows donors to pool resources and provide funding with the aim of significantly reducing global emissions from deforestation and forest degradation in developing countries.

Source: Shankar

Environment

Q.1) The Species “Koala” is often seen in news is endemic to which of the following?

- a) Australia
- b) South Africa
- c) Brazil
- d) Serbia

ANS: A

Explanation: Koalas in Australia’s New South Wales are in grave danger. They are likely to become extinct by 2050 if the government does not intervene.

- This was determined by a parliamentary committee after a year-long inquiry. Several factors have resulted in the fragmentation of the koalas.
- It is endemic and native to Australia and found in Australia only.

Source: <https://indianexpress.com/article/world/australia-gears-up-for-the-great-koala-count-using-drones-droppings-and-dogs-7095178/>

Q.2) The “Maldhari tribe”, who maintains a symbiotic relationship with nature, lives in which of the following?

- a) Panna tiger reserve
- b) Gir National park
- c) Periyar national park
- d) Manas national park

ANS: B

Explanation: People mostly link Gir with "Maldharis" who have survived through the ages by having symbiotic relationship with the lion.

- They are religious pastoral communities living in Gir. Their settlements are called "nesses".
- At present, Gir forests of Gujarat (India) are the only place where this race of lions i.e. Asiatic lion is found in its natural habitat.

Source: <https://forests.gujarat.gov.in/gir-nat-park.htm>

Q.3) “KURMA App” is often seen in news, is related to which of the following?

- a) Elephants
- b) Lions
- c) Tigers
- d) Turtles

ANS: D

Explanation: On May 23, 2020, World Turtle Day, a number of conservation agencies launched a citizen science initiative, a mobile-based application called KURMA, aimed at turtle conservation.

- The application, developed by the Indian Turtle Conservation Action Network (ITCAN) in collaboration with the Turtle Survival Alliance-India and Wildlife Conservation Society-India, not only provides users a database to identify a species but also provides the location of the nearest rescue centre for turtles across the country.

PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER THIRD WEEK, 2021

- It serves as a digital database, with a built-in digital field guide covering 29 species of freshwater turtles and tortoises of India, and information on turtle identification, distribution, vernacular names, and threats”.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/mobile-app-kurma-helps-save-turtles-in-india/article32126427.ece>

Q.4) Consider the following statements regarding “Polar Bear”:

1. It is a carnivorous animal.
2. It is found in both poles of earth.
3. It has endangered status on the IUCN red list of endangered species.

Which of the statements given above is/are correct?

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

ANS: A

Explanation: Polar bears live in the Arctic, but not Antarctica. Down south in Antarctica you'll find penguins, seals, whales and all kinds of seabirds, but never polar bears.

- Polar bears are carnivores. In the summer, they may consume some vegetation but gain little nutrition from it. Their primary prey are ringed seals (*Pusa hispida*).
- They also hunt bearded seals (*Erignathus barbatus*), harp seals (*Pagophilus groenlandicus*), hooded seals (*Cystophora cristata*), walruses (*Odobenus rosmarus*), sea birds and their eggs, small mammals, fish and scavenge on carrion of seals, walruses, or whales.
- Bears often leave a kill after consuming only the blubber. The high caloric value of blubber relative to meat is important to bears for maintaining an insulating fat layer and storing energy for times when food is scarce.
- Polar bears do not store or cache unconsumed meat as other bears do.
- ‘vulnerable’ status on the IUCN Red List of endangered species

Source: https://animaldiversity.org/accounts/Ursus_maritimus/

Q.5) The term “Pantanal” is often seen in news, is related to which of the following?

- a) Tropical wetland
- b) Extinct dinosaur
- c) Eastern African tribe
- d) Indigenous rice variety of Japan

ANS: A

Explanation: The number of fires in Brazil’s Pantanal, the world’s biggest tropical wetlands, more than doubled in the first half of 2020 compared to the same period last year, according to data released by a state institute.

Source: <https://www.thehindu.com/news/international/number-of-fires-more-than-doubles-in-brazils-pantanal/article32200268.ece>

Environment – Climate Change – Measures

Q.6) Which country is recently announced to ban heated terraces of bars and restaurants to bring down carbon emissions?

- a) Germany
- b) China
- c) France
- d) Japan

ANS: C

Explanation: France bans terrace heaters used in restaurants and cafes in order to bring down carbon emission in the country.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/france-to-ban-heated-terraces-in-anti-pollution-drive/article32209224.ece>

Q.7) Consider the following statements regarding tigers in India:

1. India has 70% of world's tigers.
2. Maharashtra has highest number of tigers followed by Madhya Pradesh.

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

ANS: A

Explanation: Releasing an updated report on India's Tiger Survey from 2018, which put the country's tiger population at 2,367 — unchanged from the government's estimate last year — Union Minister of Environment, Forest and Climate Change Prakash Javadekar said it was a matter of pride for India that it was a global exemplar in tiger conservation.

- “We have 70% of the world's tigers. We should be proud of the fact that we are leading the world in terms of ensuring that their population increases.
- India has 2,967 tigers, a third more than in 2014, according to results of a census made public on July 29 last year. The present survey is a more granular estimate of these numbers.
- Madhya Pradesh has the highest number of tigers at 526, closely followed by Karnataka (524) and Uttarakhand (442).
- Chhattisgarh and Mizoram saw a decline in tiger population and all other States saw a “positive” increase, according to a press statement.

Source: <https://www.thehindu.com/news/national/indias-tiger-count-unchanged-at-2367/article32211788.ece>

Q.8) “Emission Trading and Clean Development Mechanism” are often seen in news is related to which of the following?

- a) UNCCD
- b) Kyoto Protocol
- c) UNDP
- d) GEF

ANS: B

Explanation: The Kyoto Protocol is made up of essential architecture that has been built and shaped over almost two decades of experience, hard work and political will. The beating heart of KP is made up of:

- Reporting and verification procedures;
- Flexible market-based mechanisms, which in turn have their own governance procedures; and
- A compliance system.

The Kyoto Flexible Market Protocol mechanisms:

- Joint Implementation (JI)
- The Clean Development Mechanism (CDM)
- Emission Trading

Source: Shankar

Q.9) Consider the following statements regarding “Global Environment Facility (GEF)”:

1. It was established to provide funding to protect the global environment.
2. It was established by World Bank in consultation with UNDP and UNEP.

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

ANS: C

Explanation: The GEF was established in 1991 by the World Bank in consultation with the United Nations Development Programme (UNDP) and the United Nations Environment Programme (UNEP), to provide funding to protect the global environment.

Source: GEF

Q.10) Which of the following convention is related to Persistent Organic Pollutants?

- a) Basel convention
- b) Paris convention
- c) Stockholm convention
- d) Rotterdam convention

ANS: C

Explanation: The Stockholm Convention on Persistent Organic Pollutants is a global treaty to protect human health and the environment from chemicals that remain intact in the environment for long periods, become widely distributed geographically, accumulate in the fatty tissue of humans and wildlife, and have harmful impacts on human health or on the environment.

- Exposure to Persistent Organic Pollutants (POPs) can lead to serious health effects including certain cancers, birth defects, dysfunctional immune and reproductive systems, greater susceptibility to disease and damages to the central and peripheral nervous systems.
- Given their long range transport, no one government acting alone can protect its citizens or its environment from POPs.
- In response to this global problem, the Stockholm Convention, which was adopted in 2001 and entered into force in 2004, requires its parties to take measures to eliminate or reduce the release of POPs into the environment.

Source: Stockholm Convention

Environment

Q.1) Consider the following statements regarding Lion-tailed macaque:

1. It is endemic to Himalayan region.
2. It is in the 'endangered' category in the IUCN Red List of Threatened Species.

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

ANS: B

Explanation: Lion-tailed macaque (*Macaca silenus*), a primate endemic to small and severely fragmented rainforests of the Western Ghats in Karnataka, Kerala and Tamil Nadu, continues to be in the 'endangered' category in the IUCN Red List of Threatened Species.

- As per the technical report, the total wild population of the lion-tailed macaque (LTM) could be about 4,000 individuals consisting of less than 2,500 mature individuals, made up of 47 isolated sub-populations in seven different locations in the three States.
- The population is expected to suffer an estimated decline of over 20% in the next 25 years due to varied reasons including hunting, road kills and habitat loss, it said.
- Though the conservation status of the LTM had improved from 'endangered' in the first assessment in 1990 to 'vulnerable' in 1994, its status has remained endangered since 1996.

Source: <https://www.thehindu.com/news/cities/Coimbatore/habitat-loss-puts-lion-tailed-macaque-in-iucn-endangered-list-for-the-sixth-time/article32698840.ece>

Q.2) The term "cryptic species" is often seen in news, is related to which of the following?

- a) Species which invades other species food chain.
- b) Species that appear the same but show up a difference when their DNA is examined.
- c) Species produced by using RNA transcription cloning method.
- d) Ancient extinct species.

ANS: B

Explanation: A study conducted by researchers from Wildlife Institute of India, Dehradun, on amphibians in the central Indian Panna Tiger Reserve has come up with a list of five species hitherto un-documented in this region.

The researchers, apart from compiling an entire amphibian inventory of this region, have recorded a call library of eleven species and also have obtained molecular confirmation (through DNA) of the cryptic species – a term used to refer to species that appear the same but show up a difference when their DNA is examined.

Source: <https://www.thehindu.com/sci-tech/science/field-study-adds-five-amphibians-to-madhya-pradeshs-fauna-list/article32704116.ece>

Q.3) "PUSA Decomposer" is often seen in news, is related to which of the following?

- a) Sewage waste
- b) Stubble burning
- c) Covid – 19 plastic decomposer

d) DNA altered microbial bacteria to clean sea waste

ANS: B

Explanation: The Union government will this year test a straw-decomposing technology developed by scientists at the the Indian Agricultural Research Institute, Pusa, to deter farmers from burning paddy stubble.

The 'PUSA Decomposer', as it is called, is a set of four tablets made by extracting fungi strains that help the paddy straw to decompose at a much faster rate than usual, giving farmers the option to shred the straw, spray a solution containing the fungal strains, and mix it with the soil for decomposition.

Source: <https://www.thehindu.com/news/national/stubble-burning-centre-to-test-decomposer-technology/article32742964.ece>

Q.4) With reference to Indian biodiversity, Krishna Peacock, Indian Jezebel or Common Jezebel, Orange Oakleaf, Five-bar Swordtail, Indian Nawab, Yellow Gorgon and Northern Jungle queen are?

- a) Singing birds
- b) Primates
- c) Butterflies
- d) Trained dogs

ANS: C

Explanation: A citizen campaign to drum up support for identifying a national butterfly has gained momentum with close to half a lakh people joining the movement from across the country.

- As part of identifying butterfly species that could make it to the coveted status, the National Butterfly Campaign Consortium prepared a long-list of 50 butterflies that was further trimmed to seven.
- Krishna Peacock (*Papilio krishna*), Indian Jezebel or Common Jezebel (*Delias eucharis*), Orange Oakleaf (*Kallima inachus*), Five-bar Swordtail (*Graphium antiphates*), Indian Nawab, Yellow Gorgon and Northern Junglequeen (*Stichophthalma camadeva*) are the contenders for the premier position.

Source: <https://www.thehindu.com/news/national/kerala/campaign-to-select-countrys-national-butterfly/article32743646.ece>

Q.5) "Oussudu bird sanctuary" is recently seen in news, is located in which of the following states?

- a) Kerala
- b) Karnataka
- c) Tamil Nadu
- d) Kerala

ANS: C

Explanation: With the migratory bird season all set to begin, the Tamil Nadu Forest Department has started upgradation of infrastructure at the Oussudu bird sanctuary in Poothurai to attract more visitors to the district's primary eco-sensitive region.

Located between the Pulicat and Point Calimere wetlands, the Oussudu lake is identified as a wetland of national importance under the National Wetland Conservation Programme of the Ministry of Environment and Forests (MoEF), and has also been declared as one of the 93 significant wetlands in Asia by the Asian Wetland Bureau.

PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER THIRD WEEK, 2021

Source: <https://www.thehindu.com/news/national/tamil-nadu/oussudu-bird-sanctuary-to-get-a-facelift/article32765317.ece>

Q.6) “Eriocaulon parvicephalum and Eriocaulon karaavalense” is recently found species from?

- a) Andaman & Nicobar Islands
- b) Lakshadweep
- c) Western Ghats
- d) Ladakh region

ANS: C

Explanation: Scientists from the Agharkar Research Institute in Pune have recently discovered two new species of pipeworts in the Western Ghats of Maharashtra and Karnataka.

- The species reported from Sindhudurg district of Maharashtra has been named Eriocaulon parvicephalum (due to its minute inflorescence size), and the other reported from Kumta, Karnataka is called Eriocaulon karaavalense (named after Karaavali, Coastal Karnataka region).
- Pipeworts (Eriocaulon) is a plant group which completes its life cycle within a small period during monsoon. It exhibits great diversity in the Western Ghats.
- Around 111 species of pipeworts are found in India. Most of these are reported from the Western Ghats and the eastern Himalayas, and around 70% of them are endemic to the country.
- “One species, Eriocaulon cinereum, is well known for its anti-cancerous, analgesic, anti-inflammatory, and astringent properties.
- E. quinquangulare is used against liver diseases. E. madayiparense is an anti-bacterial from Kerala. The medicinal properties of the newly discovered species are yet to be explored”.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/two-new-plant-species-discovered-in-western-ghats/article32770885.ece>

Q.7) Scientists from India, Germany, United Kingdom and Switzerland have discovered a new family of bony fish named Aenigmachannidae from?

- a) Sunderbans
- b) Andaman & Nicobar Islands
- c) Eastern Himalayas
- d) Western Ghats

ANS: D

Explanation: Scientists from India, Germany, United Kingdom and Switzerland have discovered a new family of bony fish from the Western Ghats, and named it Aenigmachannidae.

- A year after the discovery of the enigmatic Gollum Snakehead, Aenigmachanna gollum from the rice fields of northern Kerala, scientists have now conducted detailed studies on its skeleton and genetic assembly.
- The study led to the recognition that this species, and its congener Aenigmachanna mahabali, represents a new family different from Channidae, in which both species were initially placed.
- Rendered images obtained from high-resolution CT scans revealed that Aenigmachanna gollum has a surprisingly large number of primitive characters,

and detailed molecular phylogenetic analyses including of its mitogenome, suggested an ancient separation from Channidae, the study said.

- These suggest that members of Aenigmachannidae are “living fossils” and comprise an ancient gondwanan lineage that survived the break-up of the supercontinent and the northward drift of the Indian subcontinent, about 100 million years ago, it added.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/new-family-of-bony-fish-discovered-in-western-ghats/article32771042.ece>

Q.8) Which of the following is/are the sources of methane?

1. Wetlands
2. Livestock
3. Wildfires

Select the correct answer using the codes given below:

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

ANS: D

Explanation: Methane (CH₄) is emitted by natural sources such as wetlands, as well as human activities such as leakage from natural gas systems and the raising of livestock. Smaller sources include termites, oceans, sediments, volcanoes, and wildfires.

Source: Shankar

Q.9) Consider the following statements regarding “fluorinated gases”:

1. They have low global warming potentials (GWPs) relative to other greenhouse gases.
2. They are the most potent and longest lasting type of greenhouse gases emitted by human activities.

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

ANS: B

Explanation: Fluorinated gases are emitted through a variety of industrial processes such as aluminum and semiconductor manufacturing & Substitution for Ozone-Depleting Substances.

- Many fluorinated gases have very high global warming potentials (GWPs) relative to other greenhouse gases. Fluorinated gases are well-mixed in the atmosphere, spreading around the world after they're emitted.
- Fluorinated gases are removed from the atmosphere only when they are destroyed by sunlight in the far upper atmosphere. In general, fluorinated gases are the most potent and longest lasting type of greenhouse gases emitted by human activities.

Source: Shankar

Q.10) Which of the following statement is NOT correct about black carbon?

- A. It warms the Earth by absorbing heat in the atmosphere and by reducing albedo.
- B. It disrupts cloudiness and monsoon rainfall and accelerates melting of mountain glaciers such as the Hindu Kush-Himalayan glaciers.

C. Black carbon stays in the atmosphere for years.

D. It is a form of particulate air pollutant, produced from incomplete combustion.

ANS: C

Explanation: Black carbon (BC) is a solid particle or aerosol, (though not a gas) contributes to warming of the atmosphere.

- Black carbon, commonly known as soot, is a form of particulate air pollutant, produced from incomplete combustion.
- It consists of pure carbon in several linked forms. Black carbon stays in the atmosphere for only several days to weeks.
- Thus the effects of BC on the atmospheric warming and glacier retreat disappear within months of reducing emissions.

Source: Shankar

ForumIAS

Environment

Q.1) Which of the following country has recently opened world's largest rooftop greenhouse?

- a) France
- b) Brazil
- c) Germany
- d) Canada

ANS: D

Explanation: The world's largest rooftop greenhouse has opened in Montreal, Canada.

- The greenhouse than spans 15,000 sq m was set up by Lufa Farms, on the top of a warehouse.
- The greenhouse was opened to meet the growing demand for locally sourced foods.
- This greenhouse, almost the size of three football fields, can grow enough food to feed 10,000 families

Source: <https://www.thehindu.com/sci-tech/agriculture/worlds-largest-rooftop-greenhouse-opens-in-montreal/article32559909>.

Q.2) Which of the following country is the world's largest emitter of sulphur dioxide?

- a) China
- b) Brazil
- c) India
- d) Russia

ANS: C

Explanation: For the first time in four years India's sulphur dioxide (SO₂) emissions recorded a significant decline of approximately 6% in 2019 compared to 2018, the steepest drop in four years, according to a report from Greenpeace India and the Centre for Research on Energy and Clean Air (CREA).

- However, India continues to occupy the top spot among emitters for the fifth consecutive year.
- The report ranks the world's biggest emitters of SO₂, a poisonous air pollutant that increases the risk of stroke, heart disease, lung cancer, and premature death.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/india-worlds-largest-emitter-of-sulphur-dioxide-emissions-see-drop-in-2019-report/article32803030.ece>

Q.3) Which of the following sector is the largest contributor to nitrogen oxide?

- a) Transport and communication
- b) Thermal power plants
- c) Agriculture
- d) Construction

ANS: C

Explanation: The growing use of nitrogen fertilizers in the production of food worldwide is increasing concentrations of nitrous oxide in the atmosphere — a greenhouse gas 300 times more potent than carbon dioxide — which remains in the atmosphere longer than a human lifetime.

PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER THIRD WEEK, 2021

- Nitrous oxide has risen 20% — from 220 parts per billion (ppb) in the pre-industrial era to 331 ppb in 2018 — and its growth has accelerated over recent decades due to emissions from various human activities.
- “The atmospheric N₂O burden increased from 1.4 billion ton in the 1980s to 1.5 billion ton in 2007-2016, with a possible uncertainty of ±20 million tons.
- Emissions from synthetic fertilizer dominate releases in China, India and the U.S., while emissions from the application of livestock manure as fertilizer dominates releases in Africa and South America.
- The failure to include N₂O within climate mitigation strategies will need even greater abatement of CO₂ and methane (also a greenhouse gas).
- India has managed to slow nitrogen emissions growth since 2015 in part due to the neem-coating of urea policy that reduced atmospheric loss of the element as well as soil contamination.
- Though agriculture remains the largest contributor to nitrogen emissions, non-agricultural emissions of nitrogen oxides and nitrous oxide were also growing rapidly, with sewage and fossil-fuel burning — for power, transport and industry — leading the trend.

Source: <https://www.thehindu.com/sci-tech/science/study-points-to-nitrous-oxide-emissions-derailing-paris-climate-agreement-temperature-target/article32798473.ece>

Q.4) “Begomovirus” is recently seen in news, is related to which of the following?

- a) It is a genus of viruses which cause common cold in human beings.
- b) It is a genus of viruses which causes a neuro-muscular illness in birds.
- c) It is a genus of viruses which are responsible for a considerable amount of economic damage to many important crops such as tomatoes, beans, squash, cassava and cotton.
- d) It is a high altitude pristine virus recently found in Greenland.

ANS: C

Explanation: Begomovirus is a genus of viruses, in the family Geminiviridae.

They are plant viruses that as a group have a very wide host range, infecting dicotyledonous plants.

Worldwide they are responsible for a considerable amount of economic damage to many important crops such as tomatoes, beans, squash, cassava and cotton.

Source: <https://www.thehindu.com/sci-tech/science/biological-plant-virus-arms-race-uncovered/article32822580.ece>

Q.5) The “Miyawaki method/process” is often seen in news, is related to which of the following?

- a) Afforestation
- b) Crop rotation
- c) Water harvesting
- d) Indigenous waste water treatment

ANS: A

Explanation: Kerala Tourism will embrace the Miyawaki method of afforestation to create 22 micro-forests in tourist destinations in 12 districts.

- By December 2020, around 30,000 saplings will be planted in 1.84 acres using the highly successful technique, pioneered by Japanese botanist Akira Miyawaki, being used by the government and nature lovers to increase green cover in urban and semi-urban areas.

- The micro-forests are expected to enhance the environment and nature-friendly surroundings of the destinations and turn an added attraction for visitors.

NEW AFFORESTATION METHOD GETS GREEN LIGHT

JAPANESE MIYAWAKI TECHNIQUE FOR GREENING OF GHAZIPUR LANDFILL

- Dense green buffer to be created to improve ambient air quality
- Technique pioneered by Japanese botanist Akira Miyawaki

PLANTATION CARRIED OUT ON 450SQM AREA NEAR GHAZIPUR LANDFILL

- 40 species of native trees with 1,000 saplings
- Growth is 10 times faster and 30 times denser than normal plantation
- Maintenance free after 3 years

BENEFITS

- A dense green buffer between garbage mound and habitation/national highway
- At a test stage to see what kind of species will survive in the area
- To act as a carbon sink
- Results from this stretch to be used for greening more patches around landfill

WHAT IS MIYAWAKI TECHNIQUE

Also called the potted seedling method, it is a dense afforestation technique that uses native plant species to create multilayered forests with perforators, water retainers, organic manure and mulch; guarantees a high survival and growth rate compared with conventional methods

Source: <https://www.thehindu.com/news/national/kerala/kerala-tourism-plans-micro-forests-in-12-districts/article32836096.ece>

Q.6) “Thattekkad Bird Sanctuary” is often seen in news, is located in which of the following states?

- Karnataka
- Kerala
- Tamil Nadu
- Andhra Pradesh

ANS: B

Explanation: The Thattekkad sanctuary is also the first bird sanctuary in Kerala and is considered a haven for nature lovers and birdwatchers with a wide variety of flora and fauna.

- The sanctuary is also considered as one of the richest bird sanctuaries of the State, with the presence of 284 bird species recorded from there.
- The area was previously part of the Kuttampuzha section of Kuttampuzha Forest Range under Malayattoor Forest Division. Currently, it is under the administrative jurisdiction of Idukki Wildlife Division.
- Rare bird species such as three-toed forest Kingfisher, Ceylon frogmouth, crimson-throated Barbet, bee-eater, sunbird, and Malabar grey hornbill are seen in the sanctuary.

Source: <https://www.thehindu.com/news/cities/Kochi/eco-sensitive-zone-of-thattekkad-bird-sanctuary-notified/article32839021.ece>

Q.7) The term “ghost gear” is often seen in news, is related to which of the following?

- Water conservation
- Monsoon prediction
- Marine pollution

d) Nuclear materials

ANS: C

Explanation: Derelict fishing gear, sometimes referred to as "ghost gear," is any discarded, lost, or abandoned, fishing gear in the marine environment.

- This gear continues to fish and trap animals, entangle and potentially kill marine life, smother habitat, and act as a hazard to navigation.
- Derelict fishing gear, such as nets or traps and pots, is one of the main types of debris impacting the marine environment today.

Source: <https://www.thehindu.com/sci-tech/science/impact-of-ghost-fishing-gears-on-ocean-wildlife/article32841506.ece>

Q.8) Plastic waste management rules often seen in news, draw its statutory powers from which of the following act?

- a) Environment (Protection) Act, 1986
- b) Water (Prevention and Control of Pollution) Act, 1974
- c) Air (Prevention and Control of Pollution) Act, 1981
- d) Forest conservation Act, 1980

ANS: A

Explanation: The Central Pollution Control Board (CPCB) has told the NGT that it has issued show cause notices for closure of operations to Flipkart and Patanjali Peya as they are not registered with it and have not responded to its communications on the matter.

It said that directions under Section 5 of Environment (Protection) Act, 1986 has been issued to all SPCBs for identification of the Brand owners/ producers who are operating without registration from them and to take action against the defaulting units as per provisions of PWM Rules, 2018 which may include closure of their operations, and levying Environmental Compensation.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/show-cause-notices-for-closure-issued-to-flipkart-patanjali-over-pwm-rules-cpcb-tells-ngt/article32842827.ece>

Q.9) Which of the following act gives mandatory powers to assess a project/initiative under Environment Impact Assessment?

- a) Wildlife Protection Act, 1972
- b) Forest Conservation Act, 1980
- c) Environmental (Protection) Act, 1986
- d) Forest Rights Act, 2006

ANS: C

Explanation: On 27 January 1994, the Union Ministry of Environment and Forests (MEF), Government of India, under the Environmental (Protection) Act 1986, promulgated an EIA notification making Environmental Clearance (EC) mandatory for expansion or modernization of any activity or for setting up new projects listed in Schedule 1 of the notification.

Since then there have been 12 amendments made in the EIA notification of 1994.

Source: The Hindu

Q.10) "Ranathambore national park" is often seen in news, is located in which of the following states?

- a) Madhya Pradesh

- b) Gujarat
- c) Rajasthan
- d) Haryana

ANS: C

Explanation: Once a private game reserve of the royal House of Jaipur, Ranthambore National Park and Tiger Reserve is one of the world's best known wilderness areas.

- Located 14 kilometres from Sawai Madhopur of Rajasthan and at the junction of some of the geologically oldest mountain ranges - the Aravallis and Vindhyas - Ranthambore offers some of the finest opportunities for sighting the magnificent tiger in the wild.
- A mix of rolling hills and crags, and meadows, lakes and rivulets, this dry-deciduous forest system is home to an incredible variety of flora and fauna.
- Apart from the tiger, you can also spot sloth bear, leopard, caracal, jackal, fox, hyena and mongoose at Ranthambore. The elusive Indian wolf too, has been spotted here occasionally.
- The dainty chital, sambhar deer, the blue bull antelope or nilgai, rhesus macaque, langur and an incredible variety of birds amidst a setting of dhok, fig and banyan trees makes a visit to this park a delight – for tourists and naturalists alike.

Source: <https://www.thehindu.com/books/photographer-arjun-anands-book-hamir-the-fallen-prince-of-ranthambore/article32843068.ece>

Environment

Q.1) “Sigur elephant corridor” is often seen in news, is located in which of the following states?

- a) Odisha
- b) Assam
- c) West Bengal
- d) Tamil Nadu

ANS: D

Explanation: According to Wildlife Trust of India (WTI), the Brahmagiri-Nilgiris-Eastern Ghats population has about 6,300-6,500 elephants, distributed over 12,000 sq km of habitat.

- A number of the Protected Areas, including Bandipur, Nagarahole, Mudumalai, Wayanad, Biligirirangan Swamy Temple, Kaveri and Brahmagiri, fall within the area.
- The diversity in vegetation, ranging from dry thorn forest to the montane shola grasslands, makes this one of the best elephant reserves in the country with a demographically and genetically viable population.
- This is the largest population of elephants in the country, and possibly in Asia as well.
- The Sigur plateau (Tamil Nadu) connects the Western and Eastern Ghats.
- The WTI's book, Right of Passage–Elephant Corridors of India published first in 2006 lists four corridors in the Sigur plateau.

Source: <https://www.thehindu.com/news/national/tamil-nadu/protecting-pachyderm-pathways/article32885452.ece>

Q.2) Which of the following state in India, concluded Asia’s largest citizen science project of bird atlas in September 2020?

- a) Kerala
- b) Tamil Nadu
- c) Madhya Pradesh
- d) Assam

ANS: A

Explanation: The Kerala Bird Atlas, one of the largest citizen science projects in Asia, conducted jointly by the Kerala Agriculture University, Bird Count India and supported by the Kerala Forest Department, concluded in September 2020.

- This mammoth exercise, which took five years and enlisted over 1,000 birders, aims to document the birds of the State systematically and collect information about species distribution, abundance and seasonality across more than 30,000 square kilometres of forests, wetlands, urban and rural areas.
- The project was first launched in 2015 at Alappuzha and Thrissur, the former being the smallest district with a thriving birding community. Once concluded successfully, in a year, it was rolled out across the State.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/the-kerala-bird-atlas-is-getting-ready/article32897848.ece>

PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER THIRD WEEK, 2021

Q.3) “The Common Agriculture Policy (CAP)” is often seen in news, is related to which of the following?

- a) Pacific Islands
- b) ASEAN
- c) European Union
- d) Latin America

ANS: C

Explanation: Launched in 1962, the EU's common agricultural policy (CAP) is a partnership between agriculture and society, and between Europe and its farmers.

- The provisional political agreement reached today by the European Parliament and Council on the new Common Agricultural Policy introduces a fairer, greener, more animal friendly and flexible CAP.
- Higher environmental and climate ambitions, aligned with Green Deal objectives, are to be implemented from January 2023.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/eu-agrees-to-farm-reform-with-tough-new-environment-rules/article32907427.ece>

Q.4) Arrange the following green house gases according to their global warming potential (GWP) in ascending order:

1. Methane
2. Carbon Dioxide
3. Nitrous Oxide

Select the correct answer using the code given below:

- a) 1 - 2 - 3
- b) 3 - 2 - 1
- c) 2 - 1 - 3
- d) 3 - 1 - 2

ANS: C

Explanation:

GWP & Lifetime of Green House Gases:

S. No	GAS	GWP (100-year)	LIFETIME (years)
1	Carbon di oxide	1	100
2	Methane	21	12
3	Nitrous oxide	310	120
4	Hydro fluoro carbons (HFCs)	140-11,700	1-270
5	Perfluoro carbons (PFCs)	6,500-9,200	800-50,000
6	Sulfur hexafluoride (SF6)	23,900	3,200

Source: Shankar

Q.5) “Coastal waters are also affected by excess nutrient inputs, mostly nitrogen, from agriculture, fertilizers and sewage” – describes which of the following?

- a) Eutrophication
- b) Bio-magnification
- c) Bio-accumulation
- d) Ocean Acidification

ANS: A

Explanation: Coastal waters are also affected by excess nutrient inputs, mostly nitrogen, from agriculture, fertilizers and sewage.

The resulting eutrophication leads to large plankton blooms, and when these blooms collapse and sink to the sea bed the subsequent respiration of bacteria decomposing the algae leads to a decrease in sea water oxygen and an increase in CO₂ (a decline in pH).

Source: Shankar

Q.6) Consider the following statements regarding “Ozone”:

- 1. It is an allotrope of oxygen consisting of three atoms of oxygen bound together in a non-linear fashion.
- 2. It is found in the stratosphere and Ionosphere.

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

ANS: A

Explanation: Ozone is a natural gas; it is an allotrope of oxygen consisting of three atoms of oxygen bound together in a non-linear fashion. The chemical symbol of ozone is O₃.

- It is found in two different layers of the atmosphere. Ozone in the troposphere is “bad” because it dirties the air and helps to form smog, which is not good to breathe.
- Ozone in the stratosphere is “good” because it protects life on Earth by absorbing some of the sun’s harmful Ultra Violet (UV) rays.
- The ozone layer is very important because the configuration of the ozone molecule and its chemical properties are such that ozone efficiently absorbs ultraviolet light, thus acting like a sun-screen.

Source: Shankar

Q.7) Chloro-flouro-carbons (CFCs) is/are used in which of the following?

- 1. Refrigerators
- 2. Fire extinguishing
- 3. Cleaning metallic components

Select the correct answer using the code given below:

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

ANS: D

Explanation: CFCs molecules are made up of chlorine, fluorine and carbon. They are used as refrigerants, propellants in aerosol sprays, foaming agents in plastic manufacturing, fire

PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER THIRD WEEK, 2021

extinguishing agents, solvents for cleaning electronic and metallic components, for freezing foods etc.

Two-thirds of CFC is used as refrigerants while one-third is used as blowing agents in foam insulation products.

Source: Shankar

Q.8) Which of the following International conventions/treaties is/are signed by India?

1. Ramsar Convention, 1971
2. Convention on Migratory Species, 1979
3. Convention on Biological Diversity, 1992

Select the correct answer using the codes given below:

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

ANS: D

Explanation: India is a member of all major international conservation treaties related to habitat, species and environment (like Ramsar Convention, 1971; Convention on International Trade in Endangered Species of Wild Fauna and Flora, 1973; Convention on Migratory Species, 1979; Convention on Biological Diversity, 1992, among others).

Source: <https://www.downtoearth.org.in/blog/forests/wildlife-conservation-in-india-are-we-really-serious--51505>

Q.9) Buxa tiger reserve is often seen in news is located in which of the following state?

- a) Bihar
- b) Assam
- c) Uttar Pradesh
- d) West Bengal

ANS: D

Explanation: Once famous for dolomite mining, Buxa was declared a tiger reserve in 1983 and got the status of National park in 1992.

- Located in the Assam-Bhutan border, Buxa has an area of 745 sq km, the largest forest in North Bengal.
- The park holds the maximum number of elephant, Indian bison, leopard, many species of deer and many smaller mammals, innumerable species of birds and reptiles.
- Buxa is rich with biodiversity and has a great collection of rare orchids and medicinal plants.

Source: The Hindu

Q.10) In which of the following states/union territories is/are snow leopard found?

1. Jammu & Kashmir
2. Himachal Pradesh
3. Uttar Pradesh

Select the correct answer using the codes given below:

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

ANS: B

Explanation: Snow leopard is the icon of high mountains of Asia.

- In India, they inhabit the higher Himalayan and Trans-Himalayan landscape in an altitudinal range between approximately 3,000 m to 5,400 m above MSL, spanning c. 100,000 km² in the five states of Jammu and Kashmir, Himachal Pradesh, Uttarakhand, Sikkim and Arunachal Pradesh.
- This area contributes to about 5% of the global snow leopard range.
- Long term research and conservation efforts in India have made it one of the best researched snow leopard range countries in the world.

Source: <http://164.100.117.97/WriteReadData/userfiles/SPAL.pdf>

ForumIAS

Environment

Q.1) Under NAMP (National Air Quality Monitoring Programme), which of the following pollutants are monitored?

1. Carbon Dioxide
2. Nitrogen dioxide
3. Sulphur dioxide
4. Methane
5. Carbon Monoxide

Choose the correct answer using the codes given below:

- a) 1, 2 and 3 only
- b) 2 and 3 only
- c) 1, 2, 3 and 5 only
- d) 1, 2, 3, 4 and 5

ANS: B

Explanation: The NAMP (National Air Quality Monitoring Programme) has been running since 1984. However, the publicly reported data on the CPCB website is only available since 2016 till October 2019.

- India has a network of 793 NAAQS stations covering 344 cities/towns in 29 States and six Union Territories.
- Under NAMP, four pollutants — Sulphur dioxide (So₂), Nitrogen dioxide (No₂), suspended particulate matter (SPM), and respirable suspended particulate matter (RSPM) have been identified as key pollutants for regular monitoring.
- The monitoring is being carried out by State Pollution Control Boards and the National Environmental Engineering Research Institute, Nagpur, and overseen by Pollution Control Committees, the CPCB, and now by the Union Environment Ministry under the NCAP.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/indias-air-quality-data-for-comparing-annual-pollution-is-patchy/article32964922.ece>

Q.2) “Nugu Wildlife Sanctuary” is recently seen in news, is located in which of the following state?

- a) Odisha
- b) Kerala
- c) Karnataka
- d) Tamil Nadu

ANS: C

Explanation: Nugu Wildlife Sanctuary is situated north of Bandipur National Park in Mysore District, Karnataka. It covers about 30 sq km and the northern part of the sanctuary is occupied by the Nugu Reservoir.

- Wildlife population includes elephant, leopard, jungle cat, wild pig, spotted deer, sambar deer, barking deer, mouse deer, jackal, hare, common mongoose, common otter, small Indian civet, common palm civet and porcupine.
- This is an excellent place for wild life and bird photographers. There is one more major reservoir called Kabini (on the river Kabini) which is very nearby.

PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER THIRD WEEK, 2021

- The entire land meets the forest area constituting Bandipur (with Project Tiger), Nagarhole and Madhumalai.

Source: <https://www.thehindu.com/news/national/karnataka/unbridled-promotion-of-ecotourism-fraught-with-danger-to-wildlife/article32967202.ece>

Q.3) “Clarion-Clipperton Zone” is often seen in news, is located in which of the following ocean?

- a) Atlantic
- b) Indian
- c) Pacific
- d) Arctic

ANS: C

Explanation: Polymetallic nodules are a potential mineral resource for copper, nickel, cobalt, iron, manganese, and rare earth elements—metals that are becoming important for modern life, since they are used in making electronics like rechargeable batteries and touch screens, among other things.

- These nodules are found in various deep ocean regions, including the deep Pacific and Indian Oceans.
- The nodules of greatest mining interest are approximately potato-sized, and sit on the sediment surface across abyssal plains in the Clarion-Clipperton Zone (CCZ), a region spanning 5,000 kilometers (3,100 miles) across the central Pacific Ocean, at depths of ~4,000 - 5,500 meters (12,000 - 18,000 feet).

Source: <https://www.thehindu.com/sci-tech/science/why-is-india-pulled-to-deep-sea-mining/article28809029.ece>

Q.4) “Banni grasslands” is often seen in news, is located in which of the following states?

- a) Madhya Pradesh
- b) Tamil Nadu
- c) Nagaland
- d) Gujarat

ANS: D

Explanation: Banni grassland is spread over 2,618 kilometre and account for almost 45 per cent of the pastures in Gujarat.

- It comprises 48 hamlets / villages organised into 19 panchayats, with a population of about 40,000.
- Two ecosystems, wetlands and grasslands, are juxtaposed in Banni. The area is rich in flora and fauna, with 192 species of plants, 262 species of birds, several species of mammals, reptiles and amphibians.
- Banni grasslands, traditionally, were managed following a system of rotational grazing. On May 11 1955, the court notified that the grassland will be a reserve forest.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/ecologically-and-culturally-rich-deserts-swamps-and-grasslands-must-not-be-labelled-wastelands/article33037900.ece>

Q.5) “Lake Baringo, Lake Bogoria, Lake Elementaita and Lake Nakuru” are recently in news, is located in which of the following country?

- a) Canada
- b) Nigeria

- c) Kenya
- d) Australia

ANS: C

Explanation: Lakes of Kenya's Rift Valley have risen to levels not seen in at least half a century.

- The Great Rift Valley has been experiencing devastating flooding following months of extreme rainfall.
- The swelling of Lake Baringo and Lake Bogoria is threatening wildlife and livelihoods in the area.
- The two lakes, once 20km apart, are now so close together that there are fears they could contaminate each other. Neither lake has an outlet to allow excess water to flow out.
- Both lakes play significant roles in sustaining local citizens, attracting tourists, and providing a home for many wildlife species.
- Lake Baringo provides irrigation and drinking water and is also home to Nile crocodiles. Lake Bogoria is a World Heritage site and home to hundreds of bird species, including as many as one million flamingos at times.
- Two other critical habitats frequented by the migratory birds, Lake Elementaita and Lake Nakuru, are also brimming.

Source: <https://www.thehindu.com/news/international/kenyas-lakes-are-flooding/article33052153.ece>

Q.6) Consider the following statements regarding Great Indian Bustard (GIB):

1. It is found in both Rajasthan and Gujarat.
2. WWF-India, is undertaking initiatives towards conservation of GIB in and around Desert National Park.

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

ANS: C

Explanation: Historically, the great Indian bustard was distributed throughout Western India, spanning 11 states, as well as parts of Pakistan.

- Its stronghold was once the Thar Desert in the north-west and the Deccan plateau of the peninsula.
- Today, its population is confined mostly to Rajasthan and Gujarat. Small population occurs in Maharashtra, Karnataka and Andhra Pradesh.
- WWF-India has provided inputs in developing the 'Guidelines for the State Action Plan for Resident Bustard Recovery Programme'.
- It has played an important role in raising awareness about the declining populations and highlighting the importance of implementing a focused bustard conservation programme at the national level.
- WWF-India, is undertaking initiatives towards conservation of GIB in and around Desert National Park.

Source: https://www.wwfindia.org/about_wwf/priority_species/threatened_species/great_in_dian_bustard/

Q.7) Consider the following statements regarding Sangai Deer:

1. It is found in Keibul Lamjao National Park only.
2. It is a state animal of Manipur.

Which of the statements given above is/are NOT correct?

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

ANS: D

Explanation: The brow-antlered deer is found in Keibul Lamjao National Park in Manipur. It is largely seen over the floating biomass, locally called “phumdi” in the South Eastern part of Loktak Lake inside the park.

- The park covers an area of 40 km² and the home range of the deer in the park is confined to 15–20 km².
- Phumdi is the most important and unique part of Sangai’s habitat. It is the floating mass of entangled vegetation formed by the accumulation of organic debris and biomass with soil.
- The sangai is an endemic and endangered subspecies of brow-antlered deer found only in Manipur, India. It is also the state animal of Manipur.

Source: <https://www.thehindubusinessline.com/news/manipurs-sangai-deer-needs-a-new-home/article9973347.ece>

Q.8) “Katarniaghat Wildlife Sanctuary” is part of crocodile conservation project is located in which of the following state?

- a) Andhra Pradesh
- b) Madhya Pradesh
- c) Uttar Pradesh
- d) West Bengal

ANS: C

Explanation: Project Crocodile was introduced in 1975. The primary focus was on breeding and rearing in captivity.

- The initiative was taken by the Government of India in association with the Food and Agriculture Organization and United Nations Development Fund.
- Due to the implementation of this project, there is an increase in the population of crocodiles, which has saved them from extinction.
- The protected areas include National Chambal Sanctuary and Katarniaghat Wildlife Sanctuary.
- The Katarniaghat Wildlife Sanctuary is a protected area in the Upper Gangetic plain in Uttar Pradesh, India and covers an area of 400.6 km² in the Terai of the Bahraich district.

Source: <https://blog.ipleaders.in/top-5-conservation-projects-wildlife-india/>

Q.9) Which of the following initiatives are covered under the National Mission for Enhanced Energy Efficiency (NMEEE)?

1. Perform Achieve and Trade
2. Market Transformation for Energy Efficiency
3. Energy Efficiency Financing Platform (EEP)
4. Framework for Energy Efficient Economic Development (FEEED)

Select the correct answer using the code given below:

- a) 1, 2 and 3 only
- b) 2, 3 and 4 only
- c) 1, 2 and 4 only
- d) 1, 2, 3 and 4

ANS: D

Explanation: The National Mission for Enhanced Energy Efficiency (NMEEE), which seeks to strengthen the market for energy efficiency by creating conducive regulatory and policy regime.

- NMEEE has been envisaged to foster innovative and sustainable business models to the energy efficiency sector.
- The NMEEE seeks to create and sustain markets for energy efficiency in the entire country which will benefit the country and the consumers”.

Four New Initiatives to Enhance Energy Efficiency:

- Perform Achieve and Trade
- Market Transformation for Energy Efficiency
- Energy Efficiency Financing Platform (EEP)
- Framework for Energy Efficient Economic Development (FEEED)

Source: Shankar

Q.10) “Qilian mountains” are recently seen in news, is located in which of the following country?

- a) China
- b) Japan
- c) Afghanistan
- d) Kazakhstan

ANS: A

Explanation: Glaciers in China's bleak Qilian mountains are disappearing at a shocking rate as global warming brings unpredictable change and raises the prospect of crippling, long-term water shortages.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/glaciers-in-chinas-qilian-mountains-melting-at-shocking-pace/article33065386.ece#>

Environment – Revision

Q.1) Which of the following country recently announced to ban the sale of new gasoline and diesel cars by 2030?

- a) France
- b) Britain
- c) Japan
- d) China

ANS: B

Explanation: Britain will ban the sale of new gasoline and diesel cars by 2030, a decade earlier than its previous commitment.

- Boris Johnson made the pledge as part of plans for a green industrial revolution that he claims could create up to 250,000 jobs in energy, transport and technology.
- The government said sales of new gasoline and diesel cars and vans will end in 2030, though hybrid vehicles can be sold until 2035.
- Automakers have expressed concern about the target, saying the previous goal of 2040 was already ambitious.
- The government's green plans also include investments in hydrogen energy and carbon capture technology, and an ambition to generate enough wind energy to power every home in the UK by 2030.

Source: <https://www.thehindu.com/news/international/uk-to-ban-petrol-diesel-cars-from-2030-in-green-revolution/article33122805.ece>

Q.2) "RCP8.5" is often seen in news, is related to which of the following?

- a) GHG emissions
- b) New exo-planet
- c) Asteroid coming near to earth
- d) New CoVID - 19 variant

ANS: A

Explanation: In a worst case scenario, average surface air temperatures over India could rise by up to 4.4 degrees Celsius by the end of the century as compared to the period between 1976 and 2005, according to the first Assessment of Climate Change over the Indian Region published by the Union Ministry of Earth Sciences (MoES).

- The worst case scenario is defined by the Representative Concentration Pathway (RCP) 8.5 that calculates a radiative forcing of 8.5 watt per square metre due to the rising green house gas (GHG) emissions in the atmosphere.
- Radiative forcing or climate forcing is the difference between sunlight energy absorbed by the Earth (including its atmosphere) and the energy that it radiates back into space.
- Under an intermediate scenario of RCP 4.5, the country's average temperature could rise by up to 2.4°C.
- The rise in temperatures will be even more pronounced in the Hindu Kush-Himalayan region where the average could reach 5.2°C.
- The region is already highly vulnerable to climate-related variability in temperatures, rainfall and snowfall.

PRELIMS MARATHON COMPILATION FOR THE MONTH OF SEPTEMBER THIRD WEEK, 2021

- By 2100, the frequency of warm days and warm nights might also increase by 55 per cent and 70 per cent respectively, as compared to the period 1976-2005 under the RCP 8.5 scenario.
- The incidences of heat waves over the country could also increase by three to four times. Their duration of occurrence might also increase which was already witnessed by the country in 2019.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/greenlands-largest-glaciers-likely-to-melt-faster-than-feared-study/article33124939.ece>

Q.3) “Jakobshavn Isbrae Glacier, Kangerlussuaq Glacier and Helheim Glacier” are often seen in news, are located in?

- a) Hindu Kush range
- b) Antarctica
- c) Iceland
- d) Greenland

ANS: D

Explanation: A team of researchers based in Denmark and Britain used historical images and a host of other data to estimate how much ice had been lost from Greenland's **Jakobshavn Isbrae, Kangerlussuaq Glacier and Helheim Glaciers** in the 20th century.

- They found that Jakobshavn Isbrae lost more than 1.5 trillion tonnes of ice between 1880-2012, while Kangerlussuaq and Helheim lost 1.4 trillion and 31 billion tonnes from 1900-2012, respectively.
- The ice melt has already contributed more than eight millimetres to global sea levels.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/greenlands-largest-glaciers-likely-to-melt-faster-than-feared-study/article33124939.ece>

Q.4) The only known white giraffe in the world has been fitted with a GPS tracking device to help protect is located in which country?

- a) Namibia
- b) Tanzania
- c) Kenya
- d) Zambia

ANS: C

Explanation: The only known white giraffe in the world has been fitted with a GPS tracking device to help protect it from poachers as it grazes in Kenya.

- But despite its singular status, the lonely male doesn't have a name.
- The white giraffe now stands alone after a female and her calf were killed by poachers in March, the Ishaqbini Hirola Community Conservancy said.
- A rare genetic trait called leucism causes the white color, and it makes the one surviving giraffe stand out dangerously for poachers in the arid savannah near the Somalia border.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/worlds-last-known-white-giraffe-gets-gps-tracking-device/article33125038.ece>

Q.5) Consider the following statements regarding Ramsar Convention:

1. It is an informal group for the conservation and wise use of wetlands.
2. It was signed in 1971 by World Bank in the Iranian city of Ramsar.

Which of the statements given above is/is/are correct?

- a) 1 only

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

ANS: D

Explanation: A Ramsar Site is a wetland site designated to be of international importance. These wetlands are protected under strict guidelines of the Ramsar Convention on Wetlands.

- The Ramsar Convention on Wetlands, also known as the Convention on Wetlands, is an intergovernmental treaty for the conservation and wise use of wetlands.
- The convention, signed in 1971 by UNESCO in the Iranian city of Ramsar, is one of the oldest inter-governmental accords for preserving the ecological character of wetlands.
- Over 170 countries are now party to the Ramsar Convention. There are over 2,400 Ramsar Sites around the world covering over 2.5 million square kilometres.

Source: <https://www.thehindu.com/sci-tech/energy-and-environment/watch-all-about-ramsar-sites/article33131182.ece>

Q.6) “Carprofen, Flunixin, Ketoprofen, Nimesulide, and Phenylbutazone” are often seen in news, is related to?

- a) CoVID – 19 medicines
- b) Drugs those are fatal to vultures
- c) Tuberculosis medicines
- d) Malaria drugs

ANS: B

Explanation: Though the availability of Diclofenac, a drug that is fatal to vultures, has been reduced in many parts of south India, a few other fatal drugs such as Aceclofenac, Carprofen, Flunixin, Ketoprofen, Nimesulide, and Phenylbutazone are still available.

Source: <https://www.thehindu.com/news/national/kerala/securing-vulture-population-needs-joint-efforts/article32538258.ece>

Q.7) “Dobson Unit” is the measurement unit for which of the following?

- a) Ozone concentration
- b) Solar concentration
- c) Lake purity
- d) Warming potential measurement

ANS: A

Explanation: Dobson Unit is the most common unit for measuring ozone concentration. One Dobson Unit is the number of molecules of ozone that would be required to create a layer of pure ozone 0.01 millimeters thick at a temperature of 0 degrees Celsius and a pressure of 1 atmosphere.

Source: NOAA

Q.8) Consider the following statements regarding “Petersburg Dialogue”:

1. It was started in 2010 by Russia.
2. It is an informal annual meeting to have constructive exchanges on the issues of international climate actions.

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

ANS: B

Explanation: Petersburg Dialogue was launched in 2010 by Germany after failed climate negotiations at the 2009 Copenhagen Summit.

- It is an informal annual meeting of the high-level ministers and representatives of various countries that enables them to have constructive exchanges on the issues of international climate actions.
- The co-chair of the Climate Dialogue is the country presiding over the next conference of United Nations Framework Convention on Climate Change (UNFCCC).

Source: The Hindu

Q.9) The term “Southern Annular Mode” is often seen on news is associated with which of the following?

- a) Arctic Ocean
- b) Antarctic Oscillation
- c) Pacific Gyres
- d) Temperate cyclones

ANS: B

Explanation: The Southern Annular Mode (SAM), also known as the Antarctic Oscillation (AAO), refers to the (non-seasonal) north-south movement of the strong westerly winds that blow almost continuously in the mid- to high latitudes of the southern hemisphere.

Source: NOAA

Q.10) “Agasthyavanam biological Park” is recently seen in news is located in which of the following state?

- a) Kerala
- b) Andhra Pradesh
- c) Arunachal Pradesh
- d) Odisha

ANS: A

Explanation: Agasthyavanam was established in 1997, Agasthyavanam Biological Park is a wildlife sanctuary in Kerala.

- The park is located near Thiruvananthapuram, the capital city of Kerala.
- Agasthyavanam Biological Park is spread over an area of 23 sq. km., of which 17.5 sq. km. of the park has been dedicated for natural regeneration to develop into a dense forest.
- It is contiguous to Neyyar Wildlife Sanctuary and Peppara Wildlife Sanctuary.
- The rest area of the park is left for systematic conservation programs.
- The park has been named after the Agasthyamalai Agasthyakoodam Peak, which can be seen at a distance from the park.
- Forest Department is procuring forest produce collected by the tribes people of the Agasthyavanam Biological Park (ABP) and surrounding forest ranges to be sold to commercial establishments and various collectives to deal with the lockdown necessitated by the COVID-19 pandemic

Source: The Hindu