

ForumIAS

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Prelims Marathon

1st week April, 2024

*HISTORY
ECONOMICS
POLITY
SCIENCE AND TECHNOLOGY
GEOGRAPHY AND ENVIRONMENT*

FORUMIAS



Prelims Marathon Compilation April [First Week] 2024

INDEX

Environment & Ecology	2
Environment & Ecology - II	5
Protected Areas - I	9
Protected Areas - II.....	13
Biodiversity & Conservation	17
Environment Legislations	21
Revision	24

Environment & Ecology

Q.1) Which of the following “deals with the ways in which organisms are moulded by their environment, how they make use of environmental resources including energy flow and mineral cycling”?

- a) Biostatics
- b) Ecology
- c) Carrying capacity
- d) Possibilism

ANS: B

Explanation: Ecology is defined “as a scientific study of the relationship of the living organisms with each other and with their environment.”

It deals with the ways in which organisms are moulded by their environment, how they make use of environmental resources including energy flow and mineral cycling.

Source: Shankar IAS

Q.2) Which of the following ancient text/s has reference to ecology?

- 1. The Samhitas
- 2. The Aranyakas
- 3. The Brahmanas

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: Our ancient Indian texts have references to ecological principles.

- The classical texts of the Vedic period such as the Vedas, the Samhitas, the Brahmanas and the Aranyakas-Upanishads contain many references to ecological concepts.
- The Indian treatise on medicine, the Charaka-Samhita and the surgical text Sushruta-Samhita, show that people during this period had a good understanding of plant and animal ecology.

Source: Shankar IAS

Q.3) Which of the following is/are biotic component/s of environment?

- 1. Non – green plants
- 2. Symbionts
- 3. Decomposers

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The relationship and interaction between organism and environment are highly complex.

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- It comprises both living (biotic) and non-living (abiotic) components. The environment is not static.
- Both biotic and abiotic factors are in a flux and keeps changing continuously

Components of Environment	
Abiotic	Biotic
Energy	Green plants
Radiation	Non-green plants
Temperature & heat flow	Decomposers
Water	Parasites
Atmospheric gases and wind	Symbionts
Fire	Animals
Gravity	Man
Topography	
Soil	
Geologic substratum	

Source: Shankar IAS

Q.4) Consider the following statements:

1. In terrestrial ecosystem, producers are basically herbaceous and woody plants.
2. In aquatic ecosystem producers are various species of microscopic algae.

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: Primary producers are basically green plants (and certain bacteria and algae).

- They synthesize carbohydrate from simple inorganic raw materials like carbon dioxide and water in the presence of sunlight by the process of photosynthesis for themselves, and supply indirectly to other nonproducers.
- In terrestrial ecosystem, producers are basically herbaceous and woody plants, while in aquatic ecosystem producers are various species of microscopic algae.

Source: Shankar IAS

Q.5) Which of the following is/are consumer/s?

1. Cow
2. Rabbit
3. Wolves

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: Consumers are incapable of producing their own food (photosynthesis). Consumers can be divided into two broad groups namely micro and macro consumers.

- They feed on plants or animals or both and are categorized on the basis of their food sources.

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- Herbivores are primary consumers which feed mainly on plants e.g. cow, rabbit. Secondary consumers feed on primary consumers e.g. wolves.

Source: Shankar IAS

Q.6) The term “Saprotrophs” is associated with which of the following?

- Producers
- Decomposers
- Consumers
- Secondary consumers

ANS: B

Explanation: Saprotrophs (decomposers or osmotrophs): They are bacteria and fungi which obtain energy and nutrients by decomposing dead organic substances (detritus) of plant and animal origin.

- The products of decomposition such as inorganic nutrients which are released in the ecosystem are reused by producers and thus recycled.
- Earthworm and certain soil organisms (such as nematodes, and arthropods) are detritus feeders and help in the decomposition of organic matter and are called detritivores.

Source: Shankar IAS

Q.7) “Ecosystems are capable of maintaining their state of equilibrium and regulate their own species structure and functional processes” – related to?

- Carrying capacity
- Homeostasis
- Environmental determinism
- Possibilism

ANS: B

Explanation: Ecosystems are capable of maintaining their state of equilibrium. They can regulate their own species structure and functional processes. This capacity of ecosystem of self regulation is known as homeostasis.

Source: Shankar IAS

Q.8) Which of the following is/are example/s of ecotone zones?

- Mangroves
- Grasslands
- River bank

How many of the statements given above are correct?

- Only one
- Only two
- Only three
- None

ANS: C

Explanation: Ecotone is a zone of junction between two or more diverse ecosystems. For e.g. the mangrove forests represent an ecotone between marine and terrestrial ecosystem. Other examples are – grassland, estuary and river bank.

Source: Shankar IAS

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Q.9) "It is the unique functional role or place of a species in an ecosystem" denotes?

- a) Ecotone
- b) Niche
- c) Homeostasis
- d) Ecology

ANS: B

Explanation: A niche is the unique functional role or place of a species in an ecosystem. It is a description of all the biological, physical and chemical factors that a species needs to survive, stay healthy and reproduce.

Source: Shankar IAS

Q.10) Which of the following fauna is/are commonly found in tundra region?

- 1. Lemming
- 2. Reindeer
- 3. Ptarmigan

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The typical animals found in tundra region are reindeer, arctic fox, polar bear, snowy owl, lemming, arctic hare, and ptarmigan. Reptiles and amphibians are almost absent.

Source: Shankar IAS

Environment & Ecology - II

Q.1) Consider the following statements regarding "Tropical rain forest biome":

- 1. It covers about 7% of the earth's surface and 40% of the world's plant and animal species.
- 2. Most animals and epiphytic plants are concentrated in the canopy or tree top zones.

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: Tropical rain forest covers about 7% of the earth's surface & 40% of the world's plant and animal species.

- Multiple storeys of broad-leafed evergreen tree species are in abundance.
- Most animals and epiphytic plants are concentrated in the canopy or tree top zones.

Source: Shankar IAS

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Q.2) Which of the following is/are cover/s under Lotic water system?

1. Creeks
2. Ponds
3. Bogs

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: A

Explanation: Fresh water ecosystems are classified as lotic (moving water) or lentic (still or stagnant water).

- Lotic water system includes freshwater streams, springs, rivulets, creeks, brooks, and rivers.
- Lentic water bodies include pools, ponds, some swamps, bogs and lakes.

Source: Shankar IAS

Q.3) Which of the following is/are form/s estuaries?

1. Coastal bays
2. River mouths
3. Tidal marshes

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: Coastal bays, river mouths and tidal marshes form the estuaries.

- In estuaries, fresh water from rivers meet ocean water and the two are mixed by action of tides.
- Estuaries are highly productive as compared to the adjacent river or sea.

Source: Shankar IAS

Q.4) Consider the following statements regarding “Environmental Information System (ENVIS)”:

1. It is a Central Sector Scheme.
2. Its purpose is to integrate country-wide efforts in environmental information collection, collation, storage, retrieval and dissemination through ENVIS websites.

Which of the statements given above is/are incorrect?

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

ANS: D

Explanation: Environmental Information System (ENVIS), a Central Sector Scheme of the Ministry has been implemented since 1982.

The purpose of the scheme is to integrate country-wide efforts in environmental information collection, collation, storage, retrieval and dissemination through ENVIS websites, which are dedicated to different interesting themes.

Source: Shankar IAS

Q.5) Which of the following is/are function/s of an ecosystem?

1. Energy flow
2. Nutrient cycling
3. Ecological succession

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The function of an ecosystem is a broad, vast and complete dynamic system. It can be studied under the following three heads.

- Energy flow
- Nutrient cycling (biogeochemical cycles)
- Ecological succession or ecosystem development

Source: Shankar IAS

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

1. In grazing food chain the primary source of energy is living plant.
2. In detritus food chain the source of energy is dead organic matter.

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: In the grazing food chain the primary source of energy is living plant biomass while in the detritus food chain the source of energy is dead organic matter or detritus.

The two food chains are linked. The initial energy source for detritus food chain is the waste materials and dead organic matter from the grazing food chain.

Source: Shankar IAS

Q.7) Which of the following illustrates all possible transfers of energy and nutrients among the organisms in an ecosystem?

- a) Food chain
- b) Food web
- c) Energy flow
- d) Carrying capacity

ANS: B

Explanation: A food web illustrates, all possible transfers of energy and nutrients among the organisms in an ecosystem, whereas a food chain traces only one pathway of the food.

Source: Shankar IAS

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

1. Dolphins
2. Porpoises
3. Whales

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: Dolphins, Porpoises and whales are called cetaceans. A cetacean is a creature belonging to a group of water living mammals that have no hind limbs and a blowhole for breathing.

Source: Shankar IAS

Q.9) Which of the following is/are categories of ecological pyramids?

1. Pyramid of numbers
2. Pyramid of biomass
3. Pyramid of energy

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The steps of trophic levels expressed in a diagrammatic way are referred as ecological pyramids.

- The food producer forms the base of the pyramid and the top carnivore forms the tip. Other consumer trophic levels are in between.
- The pyramid consists of a number of horizontal bars depicting specific trophic levels which are arranged sequentially from primary producer level through herbivore, carnivore onwards.
- The length of each bar represents the total number of individuals at each trophic level in an ecosystem.

The ecological pyramids are of three categories:

- Pyramid of numbers,
- Pyramid of biomass, and
- Pyramid of energy or productivity.

Source: Shankar IAS

Q.10) Consider the following statements:

1. Bioaccumulation refers to how pollutants enter a food chain.
2. In bioaccumulation there is an increase in concentration of a pollutant from the environment to the first organism in a food chain.

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: Bioaccumulation: It refers to how pollutants enter a food chain. In bioaccumulation there is an increase in concentration of a pollutant from the environment to the first organism in a food chain.

Source: Shankar IAS

Protected Areas - I

Q.1) Consider the following statements:

1. Wildlife sanctuaries enjoy a greater protection than National park.
2. Grazing of livestock is prohibited in 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: B

Explanation: National Parks enjoy a greater degree of protection than sanctuaries.

- Certain activities which are regulated in sanctuaries, such as grazing of livestock, are prohibited in National Parks.
- Wildlife sanctuary can be created for a particular species (for e.g. grizzled giant squirrel w.l.s in srivalliputhur) whereas the national park is not primarily focused on a particular species.

Source: Shankar IAS

Q.2) Which of the following is/are can declare certain area/s as Wildlife sanctuaries and National parks?

1. State corporations
2. State government
3. Central government

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: B

Explanation: The Wild Life (Protection) Act of 1972 provided for the declaration of certain areas by the State Government as wildlife sanctuaries if the area was thought to be of adequate ecological, geomorphological and natural significance.

Prelims Marathon Compilation April [First Week] 2024

- The Wild Life (Protection) Act (WPA) of 1972 provided for the declaration of National Parks by the State Government in addition to the declaration of wildlife sanctuaries.
- The Central Government may also declare, Wild Life Sanctuary and National Park under certain conditions.

Source: Shankar IAS

Q.3) Who among the following is/are permitted to entry into a protected area?

1. A public servant on duty
2. A person who has been permitted by the Chief Wild Life Warden
3. A person who has any right over immovable property within the limits

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: No person other than:

1. A public servant on duty
2. A person who has been permitted by the Chief Wild Life Warden or the authorized officer to reside within the limits of the sanctuary/National Park
3. A person who has any right over immovable property within the limits of the sanctuary/National Park
4. A person passing through the sanctuary/National Park along a public highway
5. The dependents of the person referred to in clause (a), (b) or (c) above, Shall enter or reside in the sanctuary/National Park, except under and in accordance with the conditions of a permit granted.

Source: Shankar IAS

Q.4) Consider the following statements:

1. The Chief Wild Life Warden shall be the authority who shall control, manage and maintain all Protected Areas.
2. The State Board for Wild Life shall advise the State Government on the selection and management of areas to be declared as protected areas.

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 Chief Wild Life Warden shall be the authority who shall control, manage and maintain all Protected Areas.

- The National Board for Wild Life may make recommendations on the setting up of and management of National Parks, Sanctuaries and other protected areas and on matters relating to restriction of activities in those areas.
- The State Board for Wild Life shall advise the State Government on the selection and management of areas to be declared as protected areas.

Source: Shankar IAS

Prelims Marathon Compilation April [First Week] 2024

Q.5) Consider the following statements regarding “conservation reserve”:

1. It came into effect by amending the wildlife protection act, 1972 in 2012.
2. It is managed through a Conservation Reserve Management Committee.

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 Amendment Act of 2003 provided for the creation of a new type of protected area called a Conservation Reserve.

- It is an area owned by the State Government adjacent to National Parks and sanctuaries for protecting the landscape, seascape and habitat of fauna and flora.
- It is managed through a Conservation Reserve Management Committee.

Source: Shankar IAS

Q.6) Which of the following is/are covered under the category – I of “marine protected areas”?

1. Mangroves
2. Creeks
3. Lagoons

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The MPAs in marine environment in India are primarily classified into following three categories:

- Category-I: This covers National Parks and Sanctuaries and having entire areas in intertidal/sub-tidal or mangroves, coral reefs, creeks, sea grass beds, algal beds, estuaries, lagoons.
- Category-II: This includes Islands, which have major parts in marine ecosystem and some part in terrestrial ecosystem.
- Category-III: This includes sandy beaches beyond intertidal line but occasionally interacting with the sea water.

Source: Shankar IAS

Q.7) Which of the following item/s is/are export prohibited in India?

1. Peacock Tail Feathers
2. Wood charcoal
3. Red Sanders wood

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The prohibited items are not permitted to be exported. An export license will not be given in the normal course for goods in the prohibited category.

Prelims Marathon Compilation April [First Week] 2024

The following are the items prohibited in the flora and fauna category:

- Beef of cows, oxen and calf. Beef in the form of offal of cows, oxen and calf
- Meat of buffalo (both male and female) fresh and chilled and frozen
- Peacock Tail Feathers & its Handicrafts and articles
- Shavings & Manufactured Articles of shavings of Shed Antlers of Chital and Sambhar
- Sea shells
- Wood and wood products
- Fuel wood
- Wood charcoal
- Sandalwood in any form

Source: Shankar IAS

Q.8) Consider the following statements:

1. UNESCO introduced the designation of Biosphere Reserve in 1971.
2. UNESCO officially launched the Biosphere Reserve network in 1991.

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 International Coordinating Council (ICC) of UNESCO, November, 1971, introduced the designation 'Biosphere Reserve' for natural areas.

The concept of Biosphere Reserves was refined by a Task Force of UNESCO's MAB Programme in 1974, and BR network was formally launched in 1976.

Source: Shankar IAS

Q.9) Which of the following is/are function/s of "biosphere reserve"?

1. To ensure the conservation of landscapes, ecosystems, species and genetic variations.
2. To encourage the traditional resource use systems.
3. To understand the patterns and processes of functioning of ecosystems.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: Functions of Biosphere Reserves Conservation:

- To ensure the conservation of landscapes, ecosystems, species and genetic variations.
- To encourage the traditional resource use systems;
- To understand the patterns and processes of functioning of ecosystems;
- To monitor the natural and human-caused changes on spatial and temporal scales.

Source: Shankar IAS

Prelims Marathon Compilation April [First Week] 2024

Q.10) Which of the following is/are “hottest hot spots”?

1. Sundaland
2. Caribbean
3. Philippians

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The eight hottest hot spots:

1. Madagascar
2. Philippines
3. Sundaland
4. Brazil’s Atlantic Forest
5. Caribbean
6. Indo-Burma
7. Western Ghats/Sri Lanka
8. Eastern Arc and Coastal Forests of Tanzania/Kenya

Source: Shankar IAS

Protected Areas - II

Q.1) Which of the following is/are mechanism/s established under “Biological Diversity Act of 2002”?

1. National Green Tribunal
2. State Biodiversity Boards
3. Biodiversity Management Committees

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: B

Explanation: Biological Diversity Act 2002 enacted to help India to meet the objectives of the UN Convention on Biological Diversity (CBD) 1992.

Provides for a decentralized three-tiered mechanism for regulation:

- National Biodiversity Authority (NBA) at the national level,
- State Biodiversity Boards (SSB) at the state level, and
- Biodiversity Management Committees (BMC) at the local body level.

Source: FORUMIAS

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Q.2) The “People’s Biodiversity Register (PBR)” is often seen in news established through?

- a) National Green Tribunal Act
- b) Biological Diversity Act
- c) Forest Conservation Act
- d) Forest Rights Act

ANS: B

Explanation: People’s Biodiversity Register (PBR) document which contains comprehensive information on locally available Bio-resources including landscape and demography of a particular area.

Its provisions are derived from Biological Diversity Act, 2002.

Source: FORUMIAS

Q.3) Which of the following big cat/s is/are protected under “International Big Cats Alliance (IBCA)”?

- 1. Tiger
- 2. Lion
- 3. Puma

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The International Big Cats Alliance (IBCA) was also launched by India.

- IBCA was first proposed by India at an international group against poaching and illegal wildlife trade in 2019.
- Conservation of seven big cats namely Tiger, Lion, Leopard, Snow Leopard, Cheetah, Jaguar and Puma under IBCA.

Source: FORUMIAS

Q.4) Which of the following is recently completed its 50th anniversary in 2023?

- a) Project tiger
- b) Project elephant
- c) Project snow leopard
- d) Project rhino

ANS: A

Explanation: Prime Minister inaugurated the programme 'Commemoration of 50 years of Project Tiger' in Mysuru, Karnataka.

Project Tiger is a Centrally Sponsored scheme, launched in 1973.

Source: FORUMIAS

Prelims Marathon Compilation April [First Week] 2024

Q.5) Which of the following tiger reserve/s has zero tiger/s?

1. Dampa
2. Satkosia
3. Indravati

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: B

Explanation:

TALE OF THE LESSER STRIPES			
While rise in big cat numbers is being applauded, there are some tiger reserves which have recorded less than 5 tigers			
GROUND ZERO			
Reserves	2018	2022	Rating
Sahyadri (Maha)	3	0	V Good
Satkosia (Odisha)	1	0	V Good
Kawal (T'gana)	1	0	Good
Kamlang (Arunachal)	4	0	Good
Indravati (Chhattisgarh)	3	1	Fair
STATIC STATS			
Achankamar (Ch'garh)	5	5	Good
Nameri (Assam)	3	3	Fair
Udanti Sitanadi (Ch'garh)	1	1	Fair
Mukundra (Raj)	1	1	Good
Namdapha (Arunachal)	1	1	Fair

Source: <https://timesofindia.indiatimes.com/city/nagpur/five-tiger-reserves-have-zero-tigers-yet-get-good-rating/articleshow/102294634.cms>

Q.6) The “Dholpur-Karauli Tiger Reserve (DKTR)” is recently seen in news located at?

- a) Rajasthan
- b) Maharashtra
- c) Chhattisgarh
- d) West Bengal

ANS: A

Explanation: National Tiger Conservation Authority (NTCA) has given its approval for the establishment of the Dholpur-Karauli Tiger Reserve in the state of Rajasthan.

Source: FORUMIAS

Prelims Marathon Compilation April [First Week] 2024

Q.7) Which of the following river/s is/are flows through “Kaziranga National Park”?

1. Diphlu
2. Mora Dhansiri
3. Brahmaputra

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: President Participated in Gaj Utsav at Kaziranga National Park and Tiger Reserve (KNPTR) in Assam to mark 30 years of Project Elephant.

- It is located on edge of the Eastern Himalayan biodiversity hotspots – Golaghat and Nagaon district.
- Brahmaputra, Diphlu, Mora Diphlu and Mora Dhansiri flows through the park.

Source: FORUMIAS

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

1. Tamil Nadu highest number of elephants in India.
2. Project Elephant was launched in 1982.

Which of the statements given above is/are incorrect?

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

ANS: C

Explanation: Highest number of elephants: Karnataka, followed by Assam and Kerala. Project Elephant was launched in 1992 by MoEFCC.

Source: FORUMIAS

Q.9) Which of the following organization releases the “State of Rhino 2023 report”?

- a) World Economic Forum
- b) IUCN
- c) International Rhino Foundation
- d) UNEP

ANS: C

Explanation: International Rhino Foundation (IRF) released the State of Rhino 2023 report.

- IRF was founded as International Black Rhino Foundation in 1991.
- Dedicated to survival of all five living rhino species.

Source: FORUMIAS

Q.10) The term “Funga” is often seen in news related to?

- a) Vaccine
- b) Bacteria
- c) Flora & Fauna
- d) Fossils

ANS: C

Explanation: The Fungi Foundation through UN Biodiversity has urged people globally to use the word ‘Funga’ whenever they say, ‘flora and fauna’, as part of the trinity of life on Earth.

Source: FORUMIAS

Biodiversity & Conservation

Q.1) Consider the following statements regarding “Genetic diversity”:

- 1. It is concerned with the variation in genes within a particular species.
- 2. It does not allow species to adapt to changing environments.

Which of the statements given above is/are incorrect?

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

ANS: B

Explanation: Genetic diversity is concerned with the variation in genes within a particular species. Genetic diversity allows species to adapt to changing environments.

- This diversity aims to ensure that some species survive drastic changes and thus carry on desirable genes.
- The survival of individuals ensures the survival of the population. The genetic diversity gives us beautiful butterflies, roses, parakeets or coral in a myriad hues, shapes and sizes.

Source: Shankar IAS

Q.2) Consider the following statements:

- 1. Alpha diversity is a measure of the overall diversity for the different ecosystems within a region.
- 2. Beta diversity is a comparison of diversity between ecosystems, usually measured as the change in amount of species between the ecosystems.

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: Species richness is the measure of number of species found in a community:

- a) Alpha diversity refers to the diversity within a particular area or ecosystem, and is usually expressed by the number of species (i.e., species richness) in that ecosystem.
- b) Beta diversity is a comparison of diversity between ecosystems, usually measured as the change in amount of species between the ecosystems

Prelims Marathon Compilation April [First Week] 2024

c) Gamma diversity is a measure of the overall diversity for the different ecosystems within a region.

Source: Shankar IAS

Q.3) The building blocks of plants, animals and humans are identical, and are made of which of the following element/s?

1. Carbon
2. Hydrogen
3. Nitrogen

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The building blocks of plants, animals and humans are identical, and are made of the four elements - carbon, oxygen, nitrogen and hydrogen.

Source: Shankar IAS

Q.4) Which of the following is/are natural cause/s of biodiversity loss?

1. Extension of agriculture
2. Floods
3. Earthquakes

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: B

Explanation: Loss of biodiversity occurs when either a particular species is destroyed or the habitat essential for its survival is damaged.

- The latter is more common as habitat destruction is inevitable fallout of development.
- Extinction of species may also occur due to environmental reasons like ecological substitutions, biological factors and pathological causes which can be caused either by nature or man.

Natural causes:

- floods,
- earthquakes,
- landslides,
- rivalry among species,
- Lack of pollination and diseases.

Source: Shankar IAS

Prelims Marathon Compilation April [First Week] 2024

Q.5) Which of the following is not in-situ conservation method?

- a) Botanical garden
- b) Reserved forests
- c) Sanctuaries
- d) Biosphere reserves

ANS: A

Explanation: In-situ conservation: Conserving the animals and plants in their natural habitats is known as in-situ conservation.

The established natural habitats are:

- National parks
- Sanctuaries
- Biosphere reserves and
- Reserved forests
- Protected forests

Source: Shankar IAS

Q.6) The red data book is often seen in news related to which of the following?

- a) IUCN
- b) WEF
- c) UNEP
- d) UNDP

ANS: A

Explanation: Species judged as threatened are listed by various agencies as well as by some private organizations.

- The most cited of these lists is the Red Data Book. It is a loose-leaf volume of information on the status of many kinds of species.
- This volume is continually updated and is issued by the International Union for Conservation of Nature (IUCN) located in Morges, Switzerland.

Source: Shankar IAS

Q.7) The "Nal Sarovar Bird Sanctuary" is recently seen in news located at?

- a) Gujarat
- b) Maharashtra
- c) Haryana
- d) Uttar Pradesh

ANS: A

Explanation: A yellow-breasted bunting, a critically endangered species of bird which is commonly spotted in the Himalayan region and east and central Asia was sighted at Nal Sarovar Bird Sanctuary near Ahmedabad.

This is only the second sighting of this bird in Gujarat and the first in Nal Sarovar, a wetland which is a Ramsar site.

Source: <https://indianexpress.com/article/cities/ahmedabad/critically-endangered-yellow-breasted-bunting-sighted-for-first-time-in-gujarats-nal-sarovar-9187480/>

Prelims Marathon Compilation April [First Week] 2024

Q.8) Which of the following bustard species is/are found in India?

1. Great Indian bustard
2. Macqueen's bustard
3. Bengal florican

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: GIBs are the largest among the four bustard species found in India, the other three being MacQueen's bustard, lesser florican and the Bengal florican.

Source: <https://indianexpress.com/article/explained/explained-great-indian-bustards-of-kutch-their-habitats-existential-threat-7417139/>

Q.9) Which of the following country/countries is/are adopted the Global declaration of River Dolphins by 2030?

1. India
2. China
3. Thailand

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: A

Explanation: 11 Countries signed first-of-its-kind Global declaration of River Dolphins by 2030 in Bogota, Colombia.

Global declaration of River Dolphins by 2030 is adopted by River dolphin range states-Bangladesh, Bolivia, Brazil, Cambodia, Colombia, Ecuador, India, Nepal, Pakistan, Peru and Venezuela.

Source: FORUMIAS

Q.10) The "Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act" was enacted in?

- a) 1951
- b) 1971
- c) 1991
- d) 2001

ANS: D

Explanation: The Protection of Plant Varieties and Farmers' Rights (PPV&FR) Act was enacted in 2001 under Article 27(3) (b) of the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS).

Source: FORUMIAS

Environment Legislations

Q.1) "It shall be duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures" related to?

- a) Article 42
- b) Article 48
- c) Article 51 – A (g)
- d) Article 61

ANS: C

Explanation: Article 51-A (g) Provides: It shall be duty of every citizen of India to protect and improve the natural environment including forests, lakes, rivers and wildlife and to have compassion for living creatures.

Source: Shankar IAS

Q.2) Which of the following provision/s covered under "wildlife protection act, 1972"?

- 1. Protection of various species of wild animals.
- 2. Protection of wildlife habitat.
- 3. Regulation and control of trade in the products derived from various parts of wild animals.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The Wild Life (Protection) Act, 1972 (53 of 1972), provides the legal framework for the protection of various species of wild animals, management of their habitat and also for the regulation and control of trade in the products derived from various parts of wild animals.

Source: <https://pib.gov.in/PressReleaseframePage.aspx?PRID=2011928>

Q.3) Consider the following statements regarding "wildlife protection act, 1972":

- 1. It was last amended in 2017.
- 2. Section 49 M of the Act provides for registration of possession, transfer and birth and reporting of death of living scheduled animal species which are listed in the Appendices of CITES.

Which of the statements given above is/are incorrect?

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

ANS: A

Explanation: The Wild Life (Protection) Act, 1972 (53 of 1972), provides the legal framework for the protection of various species of wild animals, management of their habitat and also for the regulation and control of trade in the products derived from various parts of wild animals.

- The Act was last amended in 2022. The Wild life (Protection) Amendment Act, 2022 has come into force since 1st April 2023.

Prelims Marathon Compilation April [First Week] 2024

- Section 49 M of the Act provides for registration of possession, transfer and birth and reporting of death of living scheduled animal species which are listed in the Appendices of CITES and as such listed in the Schedule IV of the Wild Life (Protection) Act, 1972.

Source: <https://pib.gov.in/PressReleaselframePage.aspx?PRID=2011928>

Q.4) Which of the following article/s of Indian constitution has the genesis of Environmental (Protection) Act, 1986?

1. Article 14
2. Article 48A
3. Article 51 A (g)

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: B

Explanation: The genesis of the Environmental (Protection) Act, 1986, thus, is in Article 48A (Directive Principles of State Policy) and Article 51A (g) (Fundamental Duties) of the Indian Constitution.

Source: Shankar IAS

Q.5) Consider the following statements regarding “Environmental (Protection) Act, 1986”:

1. It debars the Civil Courts from having any jurisdiction to entertain any suit or proceeding in respect of an action, direction, order issued by Central Government or other statutory authority under this Act.
2. The provisions of this act and the rules or orders made under this act shall have effect and supremacy over anything inconsistent contained in any enactment other than this act.

Which of the statements given above is/are incorrect?

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

ANS: D

Explanation: As compared to all other previous laws on environment protection, the Environment (Protection) Act, 1986 is a more effective and bold measure to fight the problem of pollution.

- The Act debars the Civil Courts from having any jurisdiction to entertain any suit or proceeding in respect of an action, direction, order issued by Central Government or other statutory authority under this Act.
- Under the Act, there will be supremacy of provision. In other words, the provisions of this Act and the rules or orders made under this Act shall have effect and supremacy over anything inconsistent contained in any enactment other than this Act.

Source: Shankar IAS

Prelims Marathon Compilation April [First Week] 2024

Q.6) Which of the following is/are objective/s of “National Forest Policy, 1988”?

1. Conserving the natural heritage of the country.
2. Checking soil erosion and denudation in the catchments areas.
3. Checking the extension of sand-dunes in the desert areas.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: The principal aim of National Forest Policy, 1988 is to ensure environmental stability and maintenance of ecological balance including atmospheric equilibrium which are vital for sustenance of all life forms, human, animal and plant.

Objectives:

- Conserving the natural heritage of the country by preserving the remaining natural forests with the vast variety of flora and fauna, which represent the remarkable biological diversity and genetic resources of the country.
- Checking soil erosion and denudation in the catchments areas of rivers, lakes, reservoirs in the “interest of soil and water conservation, for mitigating floods and droughts and for the retardation of siltation of reservoirs.
- Checking the extension of sand-dunes in the desert areas of Rajasthan and along the coastal tracts.

Source: Shankar IAS

Q.7) “Fair and equitable sharing of the benefits arising from the utilization of genetic resources” related to which of the following?

- a) Wildlife protection Act, 1972
- b) Environmental (Protection) Act, 1986
- c) Biological Diversity Act 2002
- d) National green tribunal Act, 2010

ANS: C

Explanation: The Biological Diversity Act 2002 was born out of India’s attempt to realize the objectives enshrined in the United Nations Convention on Biological Diversity (CBD) 1992 which recognizes the sovereign rights of states to use their own Biological Resources.

The primary objective of the act is fair and equitable sharing of the benefits arising from the utilization of genetic resources.

Source: Shankar IAS

Q.8) The scheduled tribes and other traditional forest dwellers act passed in which of the following year?

- a) 2001
- b) 2006
- c) 2010
- d) 2015

ANS: B

Explanation: The scheduled tribes and other traditional forest dwellers (recognition of forest rights) act, 2006 provides for the restitution of deprived forest rights across India, including both individual rights to cultivated land in forestland and community rights over common property resources.

Prelims Marathon Compilation April [First Week] 2024

Source: Shankar IAS

Q.9) How many schedule/s is/are there in “wildlife protection act”?

- a) 4
- b) 5
- c) 6
- d) 2

ANS: A

Explanation: The number of schedules in act is four:

- Schedule I: containing animal species enjoying the highest level of protection.
- Schedule II: for animal species subject to a lesser degree of protection.
- Schedule III: for protected plant species, and
- Schedule IV: for scheduled specimens under CITES.

Source: FORUMIAS

Q.10) The drug “Ketoprofen” is recently seen in news related to?

- a) Treatment of livestock
- b) Protection of bustards
- c) Artificial insemination
- d) Coral protection

ANS: A

Explanation: Drugs Technical Advisory Board (DTAB) recommended a ban on two drugs harmful to vultures. DTAB agreed to prohibit drugs Ketoprofen and Aceclofenac for treatment of livestock.

Source: FORUMIAS

Revision

Q.1) Which of the following way/s is sulfur released to atmosphere?

1. Volcanic eruptions
2. Combustion of fuels
3. Decomposition

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: Sulfur enters the atmosphere from several sources like volcanic eruptions, combustion of fossil fuels, from surface of ocean and from gases released by decomposition.

- Atmospheric hydrogen sulphide also gets oxidized into sulphur dioxide.
- Atmospheric sulphur dioxide is carried back to the earth after being dissolved in rainwater as weak sulphuric acid.

Source: Shankar IAS

Prelims Marathon Compilation April [First Week] 2024

Q.2) Which of the following is/are participates in primary succession?

1. Microbes
2. Lichens
3. Mosses

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: In primary succession on a terrestrial site the new site is first colonized by a few hardy pioneer species that are often microbes, lichens and mosses.

The pioneers over a few generations alter the habitat conditions by their growth and development.

Source: Shankar IAS

Q.3) When succession is brought about by living inhabitants of that community itself, the process is called?

- a) Allogenic succession
- b) Autogenic succession
- c) Heterotrophic succession
- d) Autotrophic succession

ANS: A

Explanation: When succession is brought about by living inhabitants of that community itself, the process is called autogenic succession, while change brought about by outside forces is known as allogenic succession.

Source: Shankar IAS

Q.4) Which of the following area/s is/are tundra ecosystem found?

1. Alaska
2. Canada
3. New Zealand

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: B

Explanation: Arctic tundra extends as a continuous belt below the polar ice cap and above the tree line in the northern hemisphere.

- It occupies the northern fringe of Canada, Alaska, European Russia, Siberia and island group of Arctic Ocean.
- On the South Pole, tundra is very small since most of it is covered by ocean.

Source: Shankar IAS

Prelims Marathon Compilation April [First Week] 2024

Q.5) Consider the following statements regarding boreal forests:

1. They are characterized by thin podzols.
2. The productivity and community stability of a boreal forest are lower than those of any other forest ecosystem.

Which of the statements given above is/are incorrect?

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

ANS: D

Explanation: Cold regions with high rainfall, strong seasonal climates with long winters and short summers are characterized by boreal coniferous forest.

- Boreal forest soils are characterized by thin podzols and are rather poor.
- Both because, the weathering of rocks proceeds slowly in cold environments and because the litter derived from conifer needle (leaf) is decomposed very slowly and is not rich in nutrients.
- The productivity and community stability of a boreal forest are lower than those of any other forest ecosystem.

Source: Shankar IAS

Q.6) Consider the following statements:

1. The temperate rain forests exhibit a marked seasonality with regard to temperature and rainfall.
2. The diversity of plants and animals is much low as compared to the tropical rainforest.

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 temperate rain forests exhibit a marked seasonality with regard to temperature and rainfall.

- Rainfall is high, and fog may be very heavy. It is the important source of water than rainfall itself.
- The biotic diversity of temperate rain forests is high as compared to other temperate forest.
- However, the diversity of plants and animals is much low as compared to the tropical rainforest.

Source: Shankar IAS

Q.7) Which of the following is/are characteristic/s of tropical rain forest?

1. The annual rainfall exceeds 200 cm and is generally distributed throughout the year.
2. Soils of tropical rainforests are red latosols.
3. Tropical rain forests are among the most diverse and rich communities on the earth.

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: C

Explanation: Tropical rain forests occur near the equator. Tropical rain forests are among the most diverse and rich communities on the earth.

Prelims Marathon Compilation April [First Week] 2024

- Both temperature and humidity remain high and more or less uniform.
- The annual rainfall exceeds 200 cm and is generally distributed throughout the year. The flora is highly diversified.
- The extreme dense vegetation of the tropical rain forests remains vertically stratified with tall trees often covered with vines, creepers, lianas, epiphytic orchids and bromeliads.
- The lowest layer is an understory of trees, shrubs, herbs, like ferns and palms.
- Soils of tropical rainforests are red latosols, and they are very thick.

Source: Shankar IAS

Q.8) Consider the following statements:

1. Neustons are unattached organisms which live at the air water interface such as floating plants.
2. Nektons contain animals which are swimmers.

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: Neuston: These are unattached organisms which live at the air-water interface such as floating plants, etc.

Nekton: This group contains animals which are swimmers.

Source: Shankar IAS

Q.9) Which of the following is/are limiting factors of aquatic ecosystem?

1. Sunlight
2. Oxygen
3. Moisture

How many of the statements given above are correct?

- a) Only one
- b) Only two
- c) Only three
- d) None

ANS: B

Explanation: Sunlight and oxygen are most important limiting factors of the aquatic ecosystems whereas moisture and temperature are the main limiting factors of terrestrial ecosystem.

Source: Shankar IAS

Prelims Marathon Compilation April [First Week] 2024

Q.10) Consider the following statements regarding “bats”:

1. They are social animals.
2. They are the second largest group of mammals after rodents.

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: Bats are social animals. They hang UPSIDE DOWN when they sleep. They feed at night (they are “nocturnal”) and spend the day sleeping in caves or in tree tops. They are the second largest group of mammals after rodents.

Source: Shankar IAS