

Q1 Answer: B

Explanation:

The ecotone contains not only species common to the communities on both sides; it may also include a number of highly adaptable species that tend to colonize such transitional areas. This can produce an edge effect along the boundary line.

Q2 Answer: A

Explanation:

The transition zone where two communities or biomes meet and intergrade is called an ecotone. Ecotone may vary in range starting from small agricultural field to large forest.

Q3 Answer: B

Explanation:

The Montreux Record is a register of wetland sites on the List of Wetlands of International Importance where changes in ecological character have occurred, are occurring, or are likely to occur as a result of technological developments, pollution or other human interference. It is maintained as part of the Ramsar List With reference to the Genetic Engineering Appraisal Committee(GEAC),

Q4 Answer: B

Explanation:

- The Genetic Engineering Appraisal Committee (GEAC) functions in the Ministry of Environment, Forest and Climate Change.
- The committee is responsible for appraisal of activities involving large scale use of hazardous microorganisms and recombinants in research and industrial production from the environmental angle.
- The committee is also responsible for appraisal of proposals relating to release of genetically engineered (GE) organisms and products into the environment including experimental field trials.

Q5 Answer: C

Explanation:

Species diversity is defined as the number and abundance of different species that occupy a location. Species diversity increases the number of links in the food web.

Q6 Answer: B

Explanation:

Species or subspecies of domestic cattle originating in the Indian subcontinent. Zebu are characterised by a fatty hump on their shoulders, a large dewlap, and sometimes drooping ears. They are well adapted to withstanding high temperatures, and are farmed throughout the tropical countries, both as pure zebu and as hybrids with taurine cattle, the other main type of domestic cattle.

Q7 Answer: B

Explanation:

A "Saving the Ozone Layer" conference was held in March in London, organized by the Government of the United Kingdom and UNEP, to draw attention to the global problem created by the developed world, which was trying to dictate its terms to the developing countries for CFCs pollution.

Helsinki Conference was held in 1989 to revive the Montreal Protocol. The agreement for CFC elimination is a major step towards environmental protection. Vienna conference was the first global conference on the depletion of the ozone layer, held in Vienna, Austria 1985. It was held after a hole as large as the US was discovered in the Ozone Layer. At this conference, the Vienna Convention for the protection of the Ozone Layer was agreed.

Q8 Answer: A

Explanation:

Carbon footprint is defined as the total amount of greenhouse gases produced to directly and indirectly support human activities, usually expressed in equivalent tons of carbon dioxide (CO₂). Usually a carbon footprint is calculated for the time period of a year.

Q9 Answer: C

Explanation:

Oil-repulsive (oleophobic) coating will be helpful in removing oil from oil-contaminated surfaces or for absorbing oil from ocean oil-spills. It can be applied to any material — wood, glass or metal to keep the surface free of oil contamination under water. Its property can be changed from oleophobic to oleophilic.

Q10 Answer: C

Explanation:

- Usually species having a wide range of distribution evolve genetically adapted populations called ecotypes. Ecotypes differ from each other on the basis of morphological and physiological characters.
- Ecotypes are interfertile. Through the different ecotypes of a species are morphologically and genetically distinct, yet became their interfertility, they are put into one taxonomic species.

Q11 Answer: B

Explanation:

ESSO-Indian National Centre for Ocean Information Services (INCOIS) under Ministry of Earth Sciences launches 'Sagar vani'. For the timely dissemination of Ocean Information and Advisory Services that includes Potential Fishing Zone (PFZ) advisories, Ocean State Forecast (OSF), High Wave Alerts and Tsunami early warnings.

Q12 Answer: D

Explanation:

Ecological footprint is the impact of a person or community on the environment, expressed as the amount of land required to sustain their use of natural resources. When the natural resources use exceeds the carrying capacity it will affect the environment and the community at large in many ways.

Q13 Answer: C

Explanation:

- India comes just behind China in terms of death due to various diseases associated with PM 2.5.
- According to the study, all regions of the world are affected; however, populations in low income cities are the most impacted.
- As per the study, all of the pollutants, fine particulate matter has the greatest impact on health. PM 2.5 is responsible for aggravating or is directly responsible for many cardiovascular diseases and lung cancer.

Q14 Answer: B

Explanation:

Sere is related to ecological succession. The entire sequence of communities that successfully change in a given data.

Q15 Answer: A

Explanation:

- Alpha-diversity (Within-Community diversity) refers to the diverse organisms sharing the same community/habitat.
- Beta-diversity (Between-community diversity) refers to the rate of replacement of species along a gradient of habitats or communities.
- Gamma diversity (Overall) refers to the diversity of habitats over the total landscape or geographical area

Q16 Answer: B

Explanation:

The Forty-Sixth session of the IPCC taking place in Montreal (Canada) from 6 to 10 September 2017

Q17 Answer: C

Explanation:

The Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and their Disposal, usually known simply as the Basel Convention, is an international treaty that was designed to reduce the movements of hazardous waste between nations, and specifically to prevent transfer of hazardous waste from developed to less developed countries (LDCs).

Q18 Answer: B

Explanation:

A unit of measurement for the total amount of ozone in the atmosphere above a point on the earth's surface, one Dobson unit being equivalent to a layer of pure ozone 0.01 mm thick at standard temperature and pressure.

Q19 Answer: D

Explanation:

- Salinization is the accumulation of the salts in the soil due to natural reasons or inefficient management practices like over-irrigation of farmland, inefficient water use, poor drainage, allowing water to pond for long periods and allowing seepage from irrigation channels, drains and water storages etc.
- These salts are detrimental for the crops as water intake is seriously affected.

Q20 Answer: B

Explanation:

Water vapor also accounts for the largest percentage of the greenhouse effect, between 36% and 66% for clear sky conditions and between 66% and 85% when including clouds.

Q21 Answer: A

Explanation:

The Red List of IUCN provides the list of threatened species. It is recognized as the most comprehensive, objective global approach for evaluating the conservation status of plant and animal species.

Q22 Answer: C

Explanation:

- Mosses have been used for decades to monitor air quality
- Mosses lack a root system, so they rely on deposition from the atmosphere for their mineral nutrition

Q23 Answer: A

- The Ministry of Tribal Affairs is the nodal agency for implementing the provisions of the Scheduled Tribes and other Traditional Forest Dwellers (Recognition of Forest Rights) Act 2006 popularly known as FRA, 2006.
- The Act seeks to recognize and vest rights for habitation and occupation in forest dwelling Scheduled Tribes (STs) as well as other traditional forest dwellers (OTFDs) who have been residing in such forests for generations but whose rights could not be recorded. The Act is an enabling legislation with a motive to undo the historical injustice done to these communities
- The Forests rights act extends whole of India except to the State of Jammu and Kashmir.

Q24 Answer: A

Explanation:

- The Indian segment of the Sundarbans, part of a UNESCO World Heritage site, forms part of the Ganga-Brahmaputra delta across 9,630 sq.km, distributed among 104 islands.
- Sundarbans is the largest Mangrove forest in the world shared between the countries of India and Bangladesh. Fourty percent of the area falls in the Indian region and sixty percent in the Bangladesh region.

Q25 Answer: C

Explanation:

ZSI is the apex institution on animal (fauna) taxonomy in India. It was established on 1 July 1916. Its headquarters is in Kolkata. It also has 16 regional centres located in different parts of the country.

Q26 Answer: D

Explanation:

- Rivers are a natural highway which does not require any cost of construction and maintenance.

- They will be complementing to reduce the traffic in Road and railways transport
- It will be operated based on LNG. Hence eco friendly

Q27 Answer: B

Explanation:

Ecological efficiency describes the efficiency with which energy is transferred from one trophic level to the next. It is determined by a combination of efficiencies relating to organismic resource acquisition and assimilation in an ecosystem.

Q28 Answer: D

Explanation:

- An ecological pyramid (also trophic pyramid, energy pyramid, or sometimes food pyramid) is a graphical representation designed to show the biomass or bio productivity at each trophic level in a given ecosystem.
- Biomass is the amount of living or organic matter present in an organism. Biomass pyramids show how much biomass is present in the organisms at each trophic level, while productivity pyramids show the production or turnover in biomass.
- Ecological pyramids begin with producers on the bottom (such as plants) and proceed through the various trophic levels (such as herbivores that eat plants, then carnivores that eat herbivores, then carnivores that eat those carnivores, and so on)

Q29 Answer: C

Explanation:

- Exposure to lead is known to cause severe and irreversible damage to the brain and nervous system in children, and to the kidneys in adults.
- It can also result in complications during pregnancy and lead to birth defects.
- Sickle cell anemia is an inherited disorder not due to lead contamination.

Q30 Answer: A

Explanation:

- Uttarakhand High Court declared the rivers Yamuna and Ganga as legal or juridical persons, enjoying all the rights, duties and liabilities of a living person. Indian courts have granted this status to temple deities, religious books, corporations, etc.
- The court ordered that the Director of the Namami Gange programme, the Uttarakhand Chief Secretary, and the Advocate-General of Uttarakhand would serve as “parents” for the rivers and would be the human faces to “protect, conserve and preserve” the rivers and their tributaries

Q31 Answer: B

Explanation:

- Narmada is the largest west flowing river in India & the fifth largest river in the country.
- It rises near Amarkantak range of mountains in Madhya Pradesh .
- It traverses Madhya Pradesh, Maharashtra and Gujarat and meets the Gulf of Cambay. It is considered as the dividing line between North India drained by the Gangetic basin, and Peninsular India.

Q32 Answer: D

Explanation:

GM crops enhances the crop productivity. Reduces the need of input - pesticide , fertilizer , water quantity etc. Hence it will help in preventing soil salinity. There is no link with GM crop reducing soil erosion.

Q33 Answer: B

Explanation:

The conservation status of snow leopard has been improved from “endangered” to “vulnerable”. The decision was announced by the International Union for Conservation of Nature (IUCN) – the global standard for assessing extinction risk. The status change followed a three-year assessment process by five international experts.

Q34 Answer: B

Explanation:

- The Ken-Betwa ILR project aims to transfer surplus water from the Ken River to the Betwa basin through concrete canal to irrigate India's worst drought-prone Bundelkhand region.
- The project will benefit Uttar Pradesh and Madhya Pradesh in terms of meeting irrigation, drinking water and electricity needs of people across 6 districts.
- Ken-Betwa river interlinking project will be the first river project that will be located within a tiger reserve.

Q35 Answer: C

Explanation:

The proposed vessel, now only known as the Brahmaputra Biodiversity Biology Boat (B4), a full-fledged lab that will allow those on board to collect samples from various stretches of the river, perform tests on water quality and biodiversity of the wider ecosystem.

Q36 Answer: D

Explanation:

All of the above are correct.

Other than these three India is committed to develop robust adaptation strategies for agriculture, water and health sectors.

Q37 Answer: B

Explanation:

- The Phyto-Pharma Plant Mission is aimed at a) conservation and cultivation of endangered and threatened endemic medicinal plants, and b) discovery of new botanical drugs for unmet medical needs using the rich traditional ethno-botanical knowledge and biodiversity of these states.
- Brahmaputra Biodiversity and Biology Boat (B4): On the Brahmaputra River, a major ecology hotspot, in NER, in collaboration with DoNER. B4 will establish a large barge on the river with a well-equipped laboratory for analysis of all components of the entire ecosystem of the river and surroundings. B4 will be linked with all the local research institutions along the river, as well as national and international laboratories.
- Frugal Microscopy through the Foldscope: a frugal microscope assembled from simple components, including a sheet of paper and a lens, is acting as

a tool connecting students and science from the region, with the rest of the country.

Q38 Answer: D

Explanation:

- Aerosols interact both directly and indirectly with the Earth's radiation budget and climate. As a direct effect, the aerosols scatter sunlight directly back into space. As an indirect effect, aerosols in the lower atmosphere can modify the size of cloud particles, changing how the clouds reflect and absorb sunlight, thereby affecting the Earth's energy budget.
- Aerosols also can act as sites for chemical reactions to take place (heterogeneous chemistry). The most significant of these reactions are those that lead to the destruction of stratospheric ozone.
- Three types of aerosols significantly affect the Earth's climate – Volcanic aerosol layer which forms in the stratosphere after major volcanic eruptions, desert dust and human-made aerosols.

Q39 Answer: B

Explanation:

- Wildlife Protection Act of 1972, first umbrella act which established schedules of protected plant and animal species.
- There are six schedules which give varying degrees of protection
- Schedule VI contains the plants, which are prohibited from cultivation and planting.

Q40 Answer: D

Explanation:

- Heavy metal contamination had turned the air and water toxic and that children in the town had high levels of lead in their blood.
- Minamata is because of Mercury contamination.
- Mercury, fluorine, barium, chromium, and cobalt, which either leach from the waste or are used in processing, are blamed for skin rashes and respiratory problems.

Q41 Answer: A

Explanation:

Biofortification differs from conventional fortification in that biofortification aims to increase nutrient levels in crops during plant growth rather than through manual means during processing of the crops.

Q42 Answer: C

Explanation:

The Food and Agriculture Organization of the United Nations is a specialised agency of the United Nations that leads international efforts to defeat hunger. Headquarter is located in Rome, Italy.

Q43 Answer: D

Explanation: All if the above are correct

Q44 Answer: D

Explanation:

- The ISA is an Indian initiative jointly launched by the Prime Minister of India and the President of France on 30 November 2015 at Paris, on the sidelines of COP-21.
- It aims at addressing obstacles to deployment at scale of solar energy through better harmonization and aggregation of demand from solar rich countries lying fully or partially between the Tropic of Cancer and Tropic of Capricorn.
- With ratifications by 15 countries, the ISA will become a treaty based intergovernmental international organization.

