



Environmental Issues Important Questions With Answers

NEET Biology 2023

1. Assertion: Montreal protocol, was signed at Montreal (Canada) in 1987 to control the emission of ozone depleting substances.

Reason: Kyoto protocol, held in Kyoto (Japan) in 1997, has specified the commitments of different countries to mitigate climate change.

a) If both assertion and reason are true and reason is the correct explanation of assertion.

b) If both assertion and reason are true but reason is not the correct explanation of assertion

c) If assertion is true but reason is false. d) If both assertion and reason are false.

2. The amount of biodegradable organic matter in sewage water can be estimated by measuring:

a) biochemical oxygen demand b) the growth of anaerobic bacteria in water

c) biogeological oxygen demand d) the growth of aerobic bacteria in water

Solution : -

Biochemical oxygen demand is the measure of oxygen required by aerobic decomposers for biochemical degradation of the organic materials. BOD indicates the degree of organic pollution in water.

3. Match column I with column II and select the correct option from the given codes.

Column - I	Column -II
A Catalytic converter	i Used in industries and power plants
B Electrostatic precipitator	ii Used in automobiles
C Earmuffs	iii High noise level
D Land fills	iv Solid wastes

a) A-(i), B-(ii), C-(iii), D-(iv) **b) A-(ii), B-(i), C-(iii), D-(iv)** c) A-(iv), B-(iii), C-(ii), D-(i)

d) A-(iii), B-(ii), C-(iv), D-(i)

4. In coming years, skin-related disorders will be more common due to _____.

a) air pollution b) use of detergents c) water pollution **d) depletion of ozone layer**

Solution : -

Ozone layer is found in the stratosphere of atmosphere. It absorbs harmful ultraviolet rays coming from the sun. In coming years, when the ozone layer may become thinner, ultra-violet radiations may reach earth directly to cause cancer, especially skin cancer.

5. Phosphate pollution is brought about by

a) phosphate rocks b) automobile exhausts **c) sewage and phosphate rocks**

d) sewage and agricultural fertilisers.

Solution : -

The sources of phosphate pollution are sewage treatment plants, phosphate fertilisers used in agricultural fields, etc.

6. Assertion: Deforestation increases carbon dioxide concentration in the atmosphere.

Reason: Deforestation may lead to desertification.

a) If both assertion and reason are true and reason is the correct explanation of assertion

b) If both assertion and reason are true but reason is not the correct explanation of assertion

c) If assertion is true but reason is false. d) If both assertion and reason are false

Solution : -

Deforestation is the conversion of forested areas to non-forested ones. One of the major effects of deforestation is enhanced carbon dioxide concentration in the atmosphere because trees that could hold a lot of carbon in their biomass are lost with deforestation. Deforestation also causes loss of biodiversity due to habitat destruction, disturbs hydrological cycle, causes soil erosion and may lead to desertification.

7. Which of the following is a method used to get rid of particulate matter present in the exhaust from a thermal power plant?

a) Magnetic precipitator b) Chromatography **c) Electrostatic precipitator** d) Mass spectrometry

Solution : -

Electrostatic precipitators (ESPs) are very efficient devices which remove 99% of particulates present in the industrial and thermal plant exhausts. There are electrode wires and a stage of collecting plates. The collecting plates are connected with ground. The electrode wires are provided with several thousand volts electric current. It creates a corona which releases electrons. The electrons attach to the suspended particles and make them negatively charged within a fraction of a second. Air with charged particles passes slowly over collecting plates. The particulate matter settles over them and are removed.

8. Assertion: An electrostatic precipitator (ESP) is a particulate collection device that removes dust and smoke particles from flowing air using the force of an induced electrostatic charge.

Reason: An ESP is a highly efficient device as it removes 99 percent of particulate matter present in the exhaust from a thermal power plant.

a) If both assertion and reason are true and reason is the correct explanation of assertion

b) If both assertion and reason are true but reason is not the correct explanation of assertion.

c) If assertion is true but reason is false. d) If both assertion and reason are false.

9. Which of the following is the most dangerous metal pollutant of automobile exhaust?

a) Cadmium b) Copper c) Mercury **d) Lead**

Solution : -

Automobiles burn petroleum inefficiently causing 80% of air pollution and 75% of noise pollution in urban areas. They release hydrocarbons (13.7%), carbon monoxide (77.2%), nitrogen oxides (7.7%), sulphur oxides, ammonia, aldehydes and lead (90% of total lead poisoning). Lead is present in petroleum in the form of $Pb(CH_3)_4$ and $Pb(C_2H_5)_4$ as antiknock agent.

10. Amrita Devi Bishnoi Wildlife Protection Award is for the individuals or communities from rural areas that have shown extraordinary courage in

a) reducing environmental pollution b) reducing global warming **c) protecting wildlife**

d) reforestation in deforested area.

Solution : -

The Government of India has instituted Amrita Devi Bishnoi Wildlife Protection Award for individuals or communities from rural areas that have shown extraordinary courage and dedication in protecting wildlife.

11. Nuisance growth of aquatic plants and bloom-forming algae in natural waters is generally due to high concentrations of

a) carbon b) sulphur c) calcium **d) phosphorus**

Solution : -

Phosphorus in the form of phosphates as well as nitrates act as nutrients for the bloom-forming algae. Increased growth of algae because of these pollutants added to water bodies by human activities is called as cultural eutrophication. This literally, chokes the water body and lead to death of the organisms. Decomposition of these algae as well as dead water organisms, further deplete the dissolved oxygen content in water.

12. Assertion: Evencs refers to a scientific method of treating e-wastes in an environment friendly manner.
Reason: Recycling of e-wastes in developed countries often involves manual participation and exposes the workers to toxic substances present in e-wastes.
- a) If both assertion and reason are true and reason is the correct explanation of assertion.
b) If both assertion and reason are true but reason is not the correct explanation of assertion
c) If assertion is true but reason is false. d) If both assertion and reason are false.

Solution : -

Irreparable computers and other electronic goods are known as electronic wastes (e-wastes). E-wastes are buried in landfills or incinerated. Over half of the e-wastes generated in the developed world are exported to developing countries, mainly to China, India and Pakistan, where metals like copper, iron, silicon, nickel and gold are recovered during recycling process. Developed countries enforced strict environmental laws in 1980s. This pushed up the cost of handling and treatment of hazardous wastes. They started exporting the wastes to developing countries. Unlike developed countries, which have specifically built facilities for recycling of e-wastes, recycling in developing countries often involves manual participation thus exposing workers to toxic substances present in e-wastes. A scientific method of treating e-wastes in an environment friendly manner has been developed. It is called evencs.

13. High concentration of nutrients especially nitrates and phosphates in water can accelerate which of the following phenomenon?
- a) Algal bloom b) Eutrophication c) Biomagnification **d) Both (a) and (b)**

Solution : -

Eutrophication is the excessive growth of algae, plants and animals in water bodies due to the nutrient enrichment particularly with nitrogen and phosphorus. This excessive growth of planktonic algae that causes colouration of water is called algal bloom. So, the high concentration of nitrates and phosphates in water increases both the eutrophication and algal bloom.

14. The Chipko movement was launched for protection of:
- a) Forests** b) Grasslands c) Wetlands d) Livestock

Solution : -

It is people's participation in conserving the forests

15. Which of the following is the most suitable indicator of SO₂ pollution in the environment?
- a) Lichens** b) Conifer c) Algae d) Fungi

Solution : -

Fact.

16. Which of the following can cause DNA damage and mutations in humans?
- a) Absorption of UV-A and UV-B **b) Absorption of UV-B** c) Absorption of UV-A
d) Absorption of UV-A and UV-C

17. Snow - blindness in Antarctic region is due to _____.
- a) High reflection of light from snow b) Damage of retina caused by infra-red rays
c) Freezing of fluids in the eye by low temperature
d) Inflammation of cornea due to high dose of UV-B radiation

Solution : -

In human eye, cornea absorbs UV-B radiation, and a high dose of UV-B causes inflammation of cornea, called snow-blindness. It is a painful eye condition caused by overexposure to ultraviolet (UV) light. Cornea sunburn results due to the effects of UV light on the cornea.

18. Euro-II (April - 2000) is emission norms for reducing
a) O₃ and CO b) NO₂ and N₂O c) Sulphur and Aromatic hydrocarbons **d) CO₂ and particulate matter**
19. Choose the incorrect statement.
a) The Montreal protocol is associated with the control of emission of ozone depleting substances.
b) Methane and carbon dioxide are greenhouse gases.
c) Dobson units are used to measure oxygen content.
d) Use of incinerators is crucial to disposal of hospital wastes.

Solution : -

Dobson units (DU) are used to represent the concentration or thickness of ozone (O₃) in our atmosphere. 100 = 1ppb (parts per billion). Thickness of ozone is more over equators than over poles.

20. The expanded form of DDT is
a) dichloro diphenyl trichloroethane b) dichloro diethyl trichloroethane
c) dichloro dipyrydyl trichloroethane d) dichloro diphenyl tetrachloroacetate
21. The concentration of polychlorinated biphenyls (PCB, an organochloride contaminant) in many fish populations has been declining, since a ban on their production was instituted in the late 1970s. PCBs remain a potential problem, however, because they are lipophilic and are known to biomagnify. Based on this knowledge, what type of fish is expected to be safest for human consumption?
a) Fish species with high fat content b) Piscivorous fish species (i.e., which eat other fish)
c) Benthivorous fish species (i.e., which eat invertebrates on the lake bottom) **d) Small (young) fish**

Solution : -

Heavy metals and persistent pesticides (e.g., organochlorine or chlorinated hydrocarbons like DDT) pass into food chain and increase in amount per unit weight of organisms with the rise in trophic level due to their accumulation in fat. This phenomenon is called biomagnification. Therefore, lower the trophic level of fish (such as small fish), lesser will be the biomagnification and hence safer it will be for consumption.

22. Global warming can be controlled by _____.
a) Reducing reforestation, increasing the use of fossil fuel.
b) Increasing deforestation, slowing down the growth of human population.
c) Increasing deforestation, reducing efficiency of energy usage.
d) Reducing deforestation, cutting down use of fossil fuel.

Solution : -

Global warming can be controlled reducing deforestation, cutting down use of fossil fuel. Global warming can be also reduced by slowing down the growth of human population, improving efficiency of energy usage.

23. Which of the following causes biomagnification?
a) SO₂ b) Mercury c) DDT d) Both (b) and (c)

Solution : -

Biomagnification refers to increase in concentration of toxicant at successive trophic levels. This happens because a toxic substance accumulated by an organism cannot be metabolised or excreted, and is thus passed on to the next higher trophic level. This phenomenon is well-known for mercury and DDT.

24. Presence of E.coli in water indicates
a) Water is clear b) Water is fully polluted c) Inorganic pollution d) Faecal pollution

25. The most common indicator organism that represents polluted water is _____.

- a) **E.coli** b) P. typhi c) C. vibrio d) Entamoeba

Solution : -

E. coli lives in the human intestine. If they are present in water it indicates that the water is polluted. E.coli coliform count test is done.

26. Which of the following is correct for infrared radiations?

- a) **They are long wave radiations.** b) They are short wave radiations c) They are visible radiations
d) None of these.

Solution : -

infrared radiations are long wave radiations.

27. A dental disease characterised by mottling of teeth is due to the presence of certain chemical element in drinking water. Which of the following is that element?

- a) **Fluorine** b) Boron c) Mercury d) Chlorine

Solution : -

Excess fluoride in drinking water causes teeth deformity.

28. The following table summarises the differences between biodegradable and non-biodegradable pollutants. Pick out the wrong differences and select the correct answer.

	Biodegradable pollutants	Non-biodegradable pollutants
(i)	These are the pollutants which can be easily degraded by micro-organisms.	These are the pollutants which can not be degraded into harmless materials.
(ii)	These can be used to produce energy (through biogas), compost, manure, etc	These are difficult to manage as natural method of degradation is absent.
(iii)	These usually do not enter biogeochemical cycles.	These become a part These become a part biogeochemical cycles.
(iv)	Examples: DDT, BHC, plastics, polyethylene, glass, etc.	Examples: Sewage, garbage, animal waste, etc.

- a) (i) and (iv) b) (ii) and (iv) c) (iii) and (iv) **d) (ii), (iii) and (iv)**

Solution : -

Biodegradable pollutants become part of rapid turnover in biogeochemical cycles. The examples of biodegradable pollutants are sewage, garbage, animal waste and livestock. Most non-biodegradable pollutants do not enter biogeochemical cycle e.g., DDT, BHC, plastics, polyethylene, cans, glass, etc.

29. Which among the following is likely to have the highest levels of DDT deposition in its body?

- a) **Sea gull** b) Phytoplankton c) Eel d) Crab

Solution : -

Chlorinated hydrocarbons like DDT pass into the food chain and increase in amount per unit weight of organism with the rise in trophic level due to their accumulation in fat. Among the given animals, sea gull which is a fish eating bird and is present at higher trophic level, will have high levels of DDT deposition in its body.

30. Which one of the following statements is incorrect regarding Bhopal gas tragedy?

- a) Methyl isocyanate gas leakage took place. b) Thousands of human beings died.
c) Radioactive fallout engulfed Bhopal. d) It took place in the night of December 2/3, 1984.

Solution : -

Bhopal gas tragedy, the world's worst industrial catastrophes was not due to radioactive fallout, but it was because of leakage of phosgene and methyl isocyanate gas.

31. In 1984, Bhopal gas tragedy took place because methyl isocyanate ____.

- a) reacted with DDT b) reacted with ammonia c) reacted with CO₂ **d) reacted with water**

Solution : -

In Bhopal gas tragedy methyl isocyanate (MIC) reacted with water to produce a large amount of heat, as it was an exothermic reaction. Due to this increase in pressure the safety valve of the tank bursted and the gas came out.

32. Which of the following conference obtained commitments from different countries for reducing overall greenhouse gas emission at a level 5% below 1990 level by 2008-2012?

- a) Kyoto Protocol, 1997** b) Earth Summit, Rio-de-Janeiro, 1992 c) Montreal Protocol, 1987
d) Helsinki Declaration, 1989

33. The material generally used for sound proofing of rooms like a recording studio and auditorium, etc. is

- a) cotton b) coir c) wood **d) styrofoam**

34. Which of the following statements is correct?

- a) There are working 'Ecosan' toilets in many areas of Kerala and Sri Lanka.

b)

Municipal solid wastes are wastes from homes, offices, stores, schools, hospitals, etc., that are collected and disposed by the municipality.

c)

In a sanitary landfill, wastes are dumped in a depression or trench after compaction and covered with dirt everyday.

d) All of these

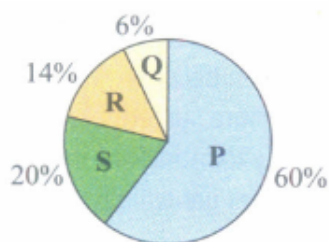
35. Eutrophication of water bodies leading to killing of fishes is mainly due to non-availability of _____.

- a) light b) essential minerals **c) oxygen** d) food

Solution : -

When eutrophication occurs, water bodies receives excess nutrients which favours excessive growth of plants. Excessive growth of plants in water bodies leads to over crowding and competition for light, space and oxygen. This results in scarcity of essential nutrients for fish due to which they die.

36. Given pie-diagram represents the relative contribution of various greenhouse gases to total global warming. Identify the gases P, Q, R and S.



a)

P	Q	R	S
N ₂ O	CFCs	CO ₂	Methane

b)

P	Q	R	S
N ₂ O	Methane	CFCs	CO ₂

c)

P	Q	R	S
CO ₂	N ₂ O	CFCs	Methane

d)

P	Q	R	S
CO ₂	CFCs	N ₂ O	Methane

37. Formation of ozone hole is maximum over _____.

- a) India **b) Antarctica** c) Europe d) Africa

Solution : -

An ozone hole (thinning) has been formed over Antarctica as a result of damage to ozone. Most ozone is formed in the stratosphere over the equator and spread by winds around the globe. Icy particles in polar stratospheric clouds catalyse the release of chlorine (from CFC) which destroys ozone. The thinning in ozone is maximum because in winter there is exceptionally cold.

38. Noise pollution may cause nervousness and irritability by stimulating the secretion of
a) thyroid hormone b) adernaline hormone c) parathyroid hormone d) none of these.

Solution : -

Noise pollution causes anxiety, stress and irritability. Adernaline hormone is released when body is under stress. So, noise pollution leads to secretion of adernaline hormone, which provides the added energy to the body to deal the stressful situation.

39. Which of the following is correct regarding 'El Nino' Effect?
a) **Temperature rise leads to odd climatic changes** b) Cutting down the use of fossil fuels
c) Planting more trees d) Slowing down the growth of human population

Solution : -

The rise in temperature due to global warming is leading to deleterious changes in the environment and resulting in odd climatic changes like EL Nino effect. El Nino effect is the abnormal warming of surface ocean water. It affects the weather in large parts of the world. Moisture carrying capacity of air will increase. Pattern of air-mass movement will change. Precipitation will increase at higher latitudes both in summer and winter and in southern as well as Eastern Asia in summer. Frequency of droughts and floods will increase. Threat to human health will increase in tropical and subtropical countries due to changed ranges of disease vectors and water borne pathogens.

40. Prolonged liberal irrigation of agricultural fields is likely to create the problem of _____.
a) Acidity b) Aridity c) **Salinity** d) Metal toxicity

Solution : -

As all surface and groundwater contains salts to varying degrees. Therefore excessive irrigation followed by evaporation of the unabsorbed water leads to salinity. This also leads to waterlogging.

41. Select the correct match.
a) **Integrated farming: Ramesh Chandra Dagar** b) Integrated waste water treatment: Ahmed Khan
c) Solid waste management: Ramesh Chandra Dagar d) E-waste management: Chandi Prasad Bhatt

42. Which one of the following statements is not valid for aerosols?
a) They alter rainfall and monsoon patterns. b) **They cause increased agricultural productivity.**
c) They have negative impact on agricultural land. d) They are harmful to human health

Solution : -

Aerosols are suspended particulate matter of less than 1 μm size. They are air pollutants which are suspended in atmosphere. They have big effect on climate change as they can modify the amount of energy reflected by clouds. As a result, they can change the atmospheric circulation patterns and affect agriculture negatively. These also affect human healthy by causing breathing problems. Saccharomyces cerevisiae also known as Baker's yeast and Saccharomyces ellipsoidens is wine yeast, are used in baking and brewing industry respectively.

43. Find odd one out w.r.t. e-waste importers
a) India b) Pakistan c) China d) **America**

44. The zone of atmosphere in which the ozone layer is present is called _____.
a) Ionosphere b) Mesosphere c) **Stratosphere** d) Troposphere

Solution : -

The ozone of atmosphere in which the ozone layer is present is called stratosphere. It is the layer which act as a shield absorbing UV-rays coming from the sun and protects living organism present on earth.

45. Which one of the following statements regarding CO gas is correct?
a) It is produced by the complete combustion of fossil fuels.
b) It combines with haemoglobin to form carbamino haemoglobin.

c) It impairs oxygen transport resulting in giddiness, headache, asphyxia and even death.

d) All of these

Solution : -

Carbon monoxide (CO) is produced due to incomplete combustion of fossil fuels, metallurgical operations, automobile emission, cigarette smoking. CO combines with haemoglobin, produces carboxyhaemoglobin which impairs oxygen transport resulting in headache, decreased vision, cardiovascular disease, asphyxia.

46. Green house gases are

a) Absorbers of long-wave radiations from earth

b) Transparent to both solar radiations and longwave radiations from earth

c) Absorbers of incoming solar radiations for warming the atmosphere

d) Transparent to emissions from earth for passage into outer space

47. Which of the following materials takes the longest time for biodegradation?

a) Cotton b) Paper c) **Bone** d) jute

Solution : -

Bones are made up of proteins (mainly collagen), inorganic minerals (calcium, hydroxyapatite) and organic ground substance. Out of the four options given, bone degradation will take the longest time. Collagen, because of its unique structures in one of the most resistant proteins to degradation. Inorganic ions like Ca^{2+} , further strengthen the bones.

48. In which one of the following the BOD (Biochemical Oxygen Demand) of sewage (s), distillery effluent (DE), paper mill effluent (PE) and sugar mill effluent (SE) have been arranged in ascending order?

a) SE b) **PE** c) S d) SE

Solution : -

Sewage strength of degree for water pollution is measured in terms of BOD (Biological oxygen demand) value. BOD may be defined as, number of milligrams of oxygen required for decomposition of one liter of waste or water by decomposing micro-organisms (bacteria). According to central pollution control board, limit of BOD prescribed is 30 ppm (mg/d) for 3 days at 27 degrees C. The BOD of the given pollutants in ascending order is $\text{PE} < \text{S} < \text{SE} < \text{DE}$.

49. A major component of gobar gas is _____.

a) **ammonia** b) methane c) ethane d) butane

Solution : -

Methane forms a major part of gobar-gas. Ammonia is toxic. Ethane and butane are not major components of gobar gas.

50. Global agreement to reduce the release of ODS is.

a) Vienna Convention b) **Rio de Janeiro Conference** c) Kyoto Protocol d) Montreal Protocol

Solution : -

The Montreal Protocol (an international treaty in Canada, 1987) was signed to control the emission of ozone depleting substances