BIOLOGY

BOOKS - MTG BIOLOGY (HINGLISH)

ENVIRONMENTAL ISSUES

Environmental Issues

1. Which of the following is not a cause of natural pollution ?

A. Volcanic eruption

B. UV radiation

C. Forest fire

D. Mercury

Answer: D

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2. Which of the following statements is correct ?

A. Primary pollutants are more harmful than secondary pollutants.

B. Primary pollutants ans secondary pollutants are equally harmful.

C. Secondary pollutants are more harmful than primary pollutants.

D. DDT is a secondary pollutant.

Answer: C

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3. The following table summarises the differences between biodegradable and non-biodegradable pollutants. Pick out the wrong diggerences 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 of rapid turnover in 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)

Answer: C

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4. The Government of India has passed the environment (Protection) Act in the year

A. 1990

B. 1987

C. 1986

D. 1992

Answer: C

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5. Read the given statements and select the correct option.

Statement 1 : Traffic jams are likely to cause giddiness, exhaustion, reduced vision, etc.

Statement 2 : Carbon monoxide from vehicles causes these problems by reducing O_2-carrying capacity of haemoglobin.

A. Both statements 1 and 2 are correct.

B. Statement 1 is correct but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: A

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6. Increased asthmatic attacks in certain seasons are related to

A. eating fruits preserved in tin containers

B. inhalation of seasonal pollen

C. low temperature

D. hot and humid environment.

Answer: B

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7. Which of the following statements are correct ?

(i) Benzene hexachloride (BHC) is a non-biodegradable pollutant.

(ii) Anthropogenic air pollutants are natural in origin.

(iii) Carbon monoxide is a primary air pollutant.

(iv) Sulphur dioxide causes brown air effect during traffic congestion in cities.

A. (i) and (iii)

B. (i) and (ii)

C. (ii) and (iii)

D. (ii) and (iv)

Answer: A

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8. Read the following statements regarding the PAN (Peroxyacyl nitrates) and select the correct ones.

(i) It is a secondary pollutant present in photochemical smog.

(ii) It is produced by photochemical reactions between hydrocarbons and nitrogen oxides in the presence of sulight or UV radiations.

(iii) It is thermally unstable and decomposes into peroxyethanoyl radicals and nitrogen dioxide gas.

(iv) It is a lacrymatory substance, causing irritation of eyes.

A. (i) and (ii)

B. (iii) and (iv)

C. (i), (ii) and (iii)

D. (i), (ii), (iii) and (iv)

Answer: D

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9. Peroxyacyl nitrates (PAN) are formed through photo-chemical reactions between

A. sulphur oxides and hydrocarbons

B. nitrogen oxides and hydrocarbons

C. nitrogen oxides and O_3

D. $CFCI_3$ and O_3

Answer: B

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

A. Methyl isocyanate gas leakage took place.

B. Thousands of human beings dies.

C. Radioactive fall out engulfed Bhopal.

D. It took place in the night of December 2/3, 1984.

Answer: C

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11. Chemicals responsible for the Bhopal gas tragedy were

A. CO_2 and CH_4

B. phosgene and methyl isocyanate

C. polychlorinated biphenyls

D. dichloro diphenyl trichloroethane.

Answer: B

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12. Study the following statements regarding acid rain and select the incorrect ones.

(i) Acid rain refers to the rainfall and other forms of precipitation with a pH of less than 5.

(ii) Oxides of sulphur and nitrogen are released from automobile exhausts, industries , power plants, etc.

(iii) These oxides of sulphur and nitrogen, may react with water in the air and form sulphuric acid (H_2SO_4) and nitric acid (HNO_3)`.

(iv) Acid rain has harmful effects on animals and human beings but no characteristic impact on plants.

A. (i) and (iii)

B. (iii) and (iv)

C. (iv) only

D. (ii) only

Answer: C

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13. Acid rains are produced by

A. excess NO_x and SO_2 from burning fossil fuels

B. excess production of NH_3 by industries and power plants

C. excess release of carbon monoxide by incomplete combustion of fossil fuels

D. excess release of CO_2 by combustion and animal respiration

Answer: A

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14. Select the correct match of air pollution source with the type of pollutant and the effect it produces.

A. Chemical factory $\rightarrow$ NO_2 $\rightarrow$ Ozone hole

B. Automobile exhaust $\rightarrow$ N_2O $\rightarrow$ Asphyxia effect

C. Heavy industry $\rightarrow CO_2 \rightarrow$ Acid rain

D. Incinerators $\rightarrow NO_x$ gases $\rightarrow$ Photochemical smog

Answer: D

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15. Chlorofluorocarbons are air polluting agents which are produced by

A. diesel trucks

B. jet planes

C. rice fields

D. cellphones.

Answer: B

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16. Given below are some differences between primary air pollutants and secondary air pollutants.

Which one of the following is an incorrect difference ?

A.

Primary air pollutants
These persist in the form in which they are added to the environment

B.

Primary air pollutants	secondary sir p
These are more toxic than the secondary pollutants.	These are less t

C.

Primary air pollutants	secondary sir pollutants
Examples include DDT, CO_2	Examples include Ozone, PAN

D. None of these

Answer: B

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17. 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

Answer: C

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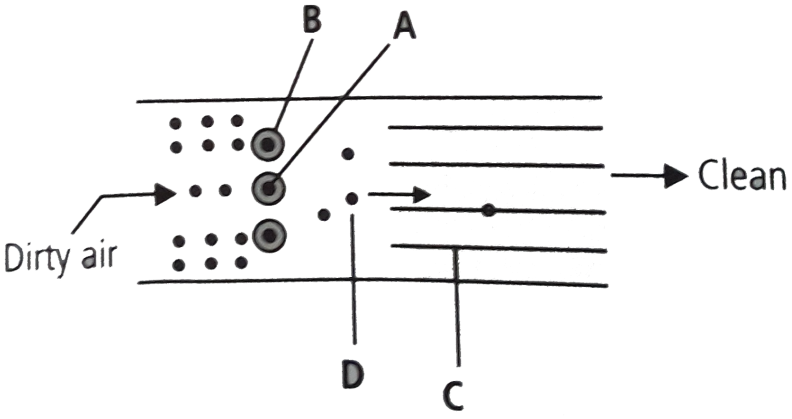
18. Given below is a diagram of electrostatic precipitator identify A,B, C and D and select the correct option.



`?

A.

A	B	
Negatively charged wire	Negatively chared dust particles	Discha

B.

A	B	C	
Negatively charged wire	Discharge corona	Collection plate	Neg

C.

A	B	C	
Negatively charged wire	Discharge corona	Collection plate	Neg

D.

A	B	C	
Positively charged wire	Discharge corona	Collection plate	Posit

Answer: B

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19. 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 precipitators

B. Chromatography

C. Electrostatic precipitators

D. Mass spectrometry

Answer: C

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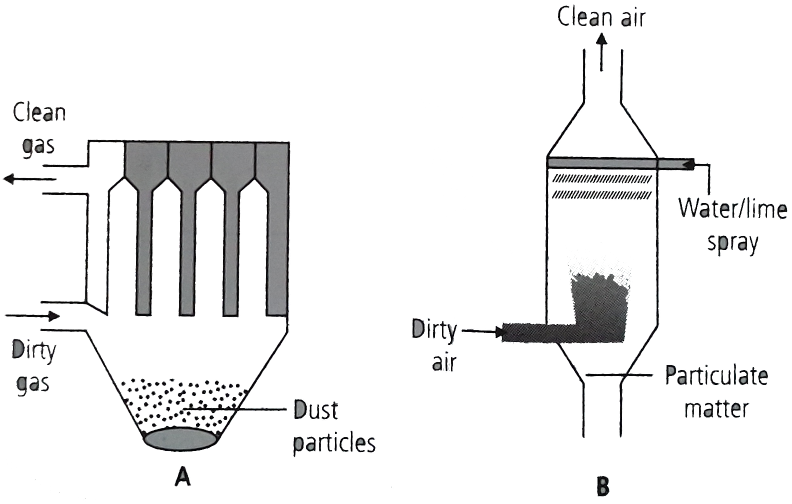
20. The given figures represent two devices A and B used to control air pollution. Identify them and select the correct answer.



A. $\begin{matrix} A & B \\ \text{Bag filter} & \text{Scrubber} \end{matrix}$

B. $\begin{matrix} A & B \\ \text{Cyclone separator} & \text{Scrubber} \end{matrix}$

C. $\begin{matrix} A & B \\ \text{Scrubber} & \text{Bag filter} \end{matrix}$

D. $\begin{matrix} A & B \\ \text{Bag filter} & \text{Cyclone separator} \end{matrix}$

Answer: A

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21. Read the following statements regarding particulate matter and select the incoorect ones.

(i) Particulate matter (PM) consists of shoot, flyash, dust, spores, pollen grains, etc.

(ii) Particulate matter is differentiated into settleable (larger than $10\mu m$, remaining in air for less than one day) and suspended (less than $10\mu m$ remaining in air for more than one day to several weeks) particulate matter.

(iii) SPM (Suspended particulate matter) consists of aerosol, dust and mist.

(iv) Particulate matter causes respiratory diseases such as tuberculosis, allergy and many more diseases in animals and plants.

(v) According to Central Pollution Control Board (CPCB), particulate size of $2.5\mu m$ or less in diameter are responsible for causing the greatest harm to human health.

A. (i) and (ii)

B. (iii) and (iv)

C. (ii) only

D. None of these

Answer: D

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

A. Cadmium

B. Copper

C. Mercury

D. Lead

Answer: D

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23. Catalytic converters, which are fitted into automobiles for reducing the emission of poisonous gases possess which of the following metals as catalyst ?

A. Platinum-Palldium

B. Rhodium

C. Lead

D. Both (a) and (b)

Answer: D

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24. Read the following statements carefully.

(i) An electrostatic precipitator removes particulate matter by imposing negative charge on them.

(ii) Catalytic converters convert unburnt hydrocarbons into CO_2 and water.

(iii) Peroxyacyl nitrates (PAN) is a secondary pollutant.

(iv) DDT is a non-biodegradable pollutant.

Which of the above statements are incorrect ?

A. (i) and (ii)

B. (iii) and (iv)

C. (i) and (iii)

D. None of these

Answer: D

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25. Motor vehicles equipped with catalytic converter are advised to use unleaded petrol because

A. lead is a heavy metal

B. lead causes inactivation of catalyst

C. lead decreases the efficiency of vehicle

D. lead increases burning of petrol

Answer: B

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26. Which of the following is the way to control vehicular air-pollution in Indian cities ?

A. Use of CNG as fuel

B. Use of unleaded petrol in the vehicles

C. Use of catalytic converter in the vehicles

D. All of these

Answer: D

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27. With its very large population of vehicular traffic, Delhi is one of the most polluted cities of the world. Which of the following steps were taken by the government to reduce vehicular pollution in Delhi ?

(i) Switching over the entire fleet of public transport i.e., buses, autorickshaws, from diesel to CNG

(ii) Phasing out of old vehicles

(iii) Use of unleaded petrol in vehicles

(iv) Use of low sulphur petrol and diesel in vehicles

(v) Use of catalytic converters in vehicles

(vi) Application of stringent pollution level norms for vehicles such as Euro-II norms, etc.

A. (ii) and (iv)

B. (ii), (iv) and (v)

C. (iv) and (v)

D. All of these

Answer: D

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28. Which of the following statements are incorrect regarding the Euro II norms ?

A. It stipulates that sulphur be controlled at 350 ppm in diesel

B. It stipulates that sulphur be controlled at 150 ppm in petrol.

C. Aromatic hydrocarbons are to be contained at 42 % of the concerned fuel.

D. None of these

Answer: D

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29. In India, Air (Prevention and Control of Pollution) Act came into force in the year 1981, but was amended in the year ___ to include ___ as an air pollutant.

A. 1990, noise

B. 1984, particulate matter

C. 1987, PAN

D. 1987, noise

Answer: D

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30. A brief exposure to 150 dB sound may

A. damage ear drums

B. cause permanent impairing hearing ability

C. cause temporary impairing hearing ability

D. Both (a) and (b)

Answer: D

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31. A prolonged exposure to noise at 95 dB produce

A. respiratory trouble

B. skin cancer

C. nervous tension and increased blood pressure

D. digestive spasm

Answer: C

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32. 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.

Answer: B

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33. Noise cause

A. headache by constricting blood vessels of the brain

B. eye strain by constricting the pupil

C. digestive spasms through anxiety

D. high blood pressure by decreasing cholesterol level in the blood.

Answer: C

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34. Which of the following actions can be taken to control noise pollution ?

A. Delimitation of horn-free zone around hospitals and schools

B. Permissible sound-levels of crackers and of loudspeakers

C. Set the timing after which loudspeakers cannot be played

D. All of these

Answer: D

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35. Green muffler scheme helps to reduce

A. air pollution

B. noise pollution

C. e-wastes

D. Both (a) and (b)

Answer: D

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36. A higher biochemical oxygen demad in a particular segment of a river indicates that

A. the segment is free from pollution

B. the segment is highly polluted

C. aquatic life has started flourishing

D. the river has high number of aquatic animals

Answer: B

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37. The amount of biodergradable 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.

Answer: A

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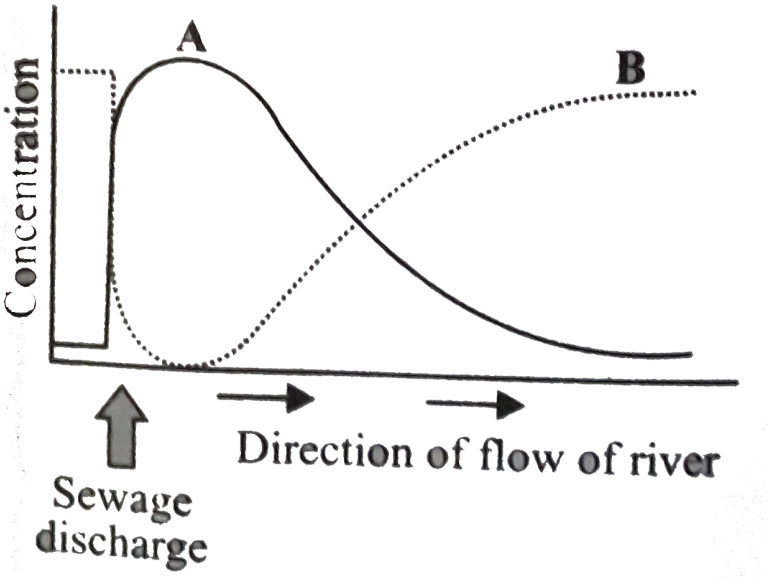
38. The graph given below represents the effect of sewage discharge on some important characteristics of river.

Select the correct option with respect to the peaks A and B.



A. Peak A- Sharp increase in BOD, disappearance of clean water organisms

Peak B- Increase in dissolved oxygen, reappearance of clean water organisms

B. Peak A- Increase in dissolved oxygen, reappearance of cleanwater organisms

Peak B- Sharp increase in BOD, appearance of clean water organisms

C. Peak A- Sharp increase in BOD, appearance of clean water organisms

Peak B- Increased number in dissolved oxygen, disappearance of clean water organisms

D. Peak A- Increased number of anaerobic bacteria, disappearance of clean water organisms

Peak B- Sharp decline in dissolved O_2, reappearance of clean water organisms

Answer: A

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39. A lake with an inflow of domestic sewage rich in organic waste may result in

A. drying of the lake very soon due to algal bloom

B. an increased growth of fishes due to algal bloom

C. death of fish due to lack of oxygen

D. increased population of aquatic food web organisms.

Answer: C

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40. Which of the following statements is not correct regarding algal blooms ?

A. Algal blooms are formed by blue-green algae.

B. Growth of Eichhornia crassipes causes colouration of water during during algal blooms.

C. Increased growth of algae causes depletion of O_2 in water.

D. Algal blooms cause deterioration of water quality and fish mortality.

Answer: B

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41. A lake near a village suffered heavy mortality of fishes within a few days. Which of the following statements could be the correct explanation for this ?

(i) Lots of urea and phosphate fertillisers were used in the crops in the nearby fields.

(ii) The croplands of the village were fertillised fields rich in nitrate and phosphate.

(iii) The lake water turned green and stinky.

(iv) Phytoplankton populations in the lake declined initially thereby greatly reducing photosynthesis.

A. (i) and (iii)

B. (i) , (ii) and (iii)

C. (ii), (iii) and (iv)

D. (iii) and (iv)

Answer: B

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42. Which of the following is referred to as the world's most problematic aquatic weed?

A. Abelmoschus esculentus

B. Eichhornia crassipes

C. Parthenium hysterophorus

D. Planktonic algae

Answer: B

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43. The term 'terror of Bengal' is used for

A. algal bloom

B. Eichhornia crassipes

C. increased biochemical oxygen demand

D. eutrophication.

Answer: B

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44. Given below are four statements each with two blanks. Select the option which correctly fills up the blank in any two statements.

(i) Bhopal gas disaster took place on ___ 1994 and this day is now observed as the ___ day in India to make the anniversary of the Bhopal gas disaster.

(ii) ___ is a biodergradable pollutant while __ is a non-biodegradable pollutant while ___ is a non-biodegradable pollutant.

(iii) When pollutants are released from a single point it is called ___ pollution, but when it is over a large area, then it is called ___ pollution.

(iv) _____ is the world's most problematic aquatic weed, introduced in India for its lovely flowers, also called as ___.

A. (i) December 5, National pollution prevention (iv) Parthenium, terror of Bengal

B. (i) December 2, Bhopal gas tragedy (ii) DDT, sewage

C. (ii) Sewage, DDT (iii) point source, non-point source

D. (iii) line source, fixed source (iv) Eichhornia, tiger of Bengal

Answer: C

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45. Escherichia coli is used as an indicator organism to determine pollution of water with

A. industrial effluents

B. heavy metals

C. pollen of aquatic plants

D. (iii) line source, fixed source (iv) Eichhornia, tiger of Bengal

Answer: D

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46. Contamination of water sewage is indicated by cysts of

A. Escherichia

B. Entamoeba

C. Pseudomonas

D. Leishmania

Answer: B

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47. Phosphate pollution is brought about by

A. phosphate rocks

B. automobile exhausts

C. sewage and phosphate rocks

D. sewage and agricultural fertilisers.

Answer: D

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

Column I	Column II
Mercury	(i)Methaemoglobinemia(or Blue baby syndrome)
Nitrate	(ii)Black foot disease
Arsenic	(iii)Itai-itai disease
Cadmium	(iv)Minamata disease

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

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

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

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

Answer: A

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49. Minamata disease was caused due to the consumption of

A. sea food containing lot of cadmium

B. fish contaminated with mercury

C. sea food contaminated with selenium.

D. None of these

Answer: B

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50. A disease caused by eating fish contaminated by industrial waste, containing mercury compounds, is called as

A. osteosclerosis

B. Hashinoto's disease

C. Bright's disease

D. Minamata disease

Answer: D

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51. Fluride pollution initially affects

A. kidneys

B. teeth

C. heart

D. brain.

Answer: B

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52. 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

Answer: A

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53. DDT residues are rapidly passed through food chain causing biomagnification because DDT is

A. water soluble

B. lipid soluble

C. moderately toxic

D. non-toxic to aquatic animals.

Answer: B

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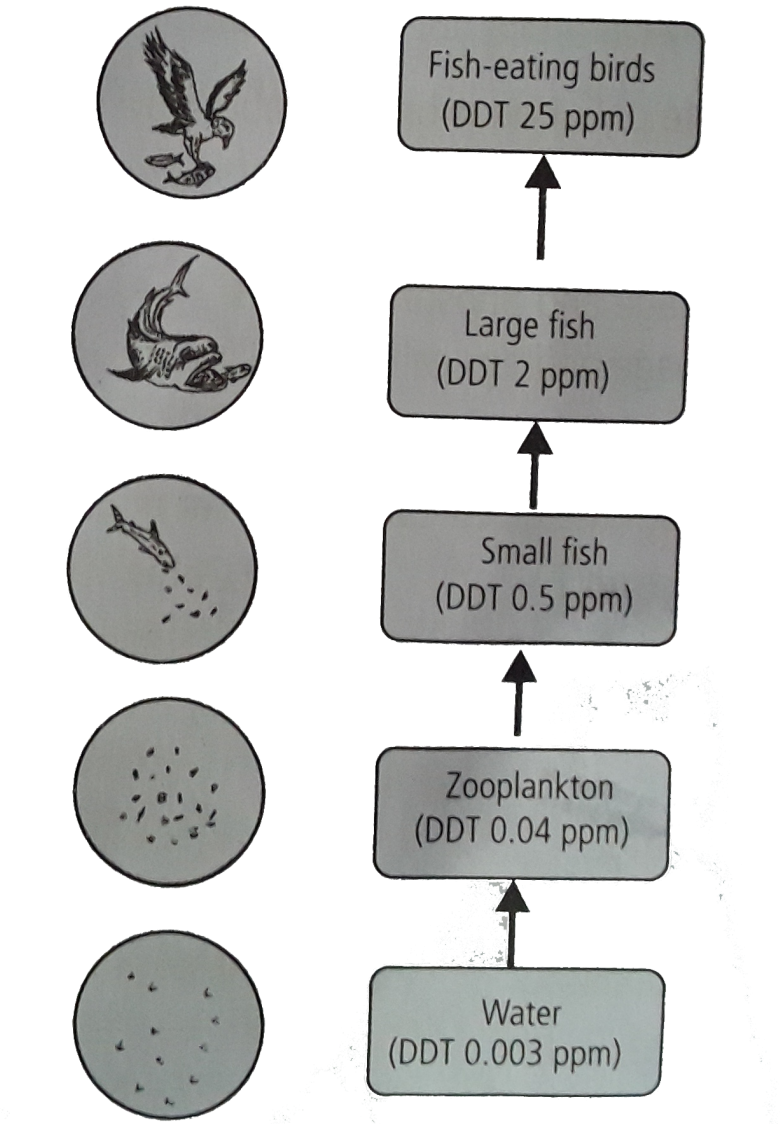
54. Given figure represents biomagnification of DDT in an aquatic food chain. Select the incorrect statement regarding this.



A. When agricultural fields are sprayed with DDT, it is carried by runoff water into nearby aquatic bodies.

B. River water may have a very low concentration of DDT, but the carnivorous fish in that river may contain high concentration of DDT, which is still suitable for consumption by huyman beings.

C. Increased concentration of DDT in birds affects calucium metabolism due to which egg shells become thin and break before maturity.

D. None of these

Answer: B

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55. Which of the following statements is not correct regarding biomagnification ?

(i) Mercury accumulated by an organism cannot be metabolised.

(ii) In the process of biomagnification, concentration of DDT is increased at successive trophic levels.

(iii) Accumulation of cadmimu can cause thinning of egg shell in birds.

(iv) DDT accumulation is a major cause of reduced population of fish eating birds.

(v) Biomagnification occurs only in aquatic food chain.

A. (i), (iii) and (v)

B. (iii) and (iv)

C. (iii) and (v)

D. (i), (ii) and (iv)

Answer: C

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56. 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

Answer: A

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57. Accelerated eutrophication occurs due to

A. increase in amount of dissolved oxygen

B. disposal of waste rich in nitrates and phosphates

C. increase in concentration of DDT and mercury in water

D. unsafe disposal of radioactive wastes.

Answer: B

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58. 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)

Answer: D

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59. Which of the following statements regarding eutrophication are correct ?

(i) Eutrophication is the natural ageing of a lake by nutrient enrichment of its water.

(ii) Pollutants from human activities like effluents from the industries and homes can radically accelerate the aging process of a lake. This

phenomenon is called as cultural or accelerated eutrophication.

(iii) The plant nutrients responsible for eutrophication are nitrates and phosphates.

(iv) These phosphates and nitrates accelerate the growth of algae, which utilise oxygen and may deoxygenate the water to kill the fish and other aquatic animals.

A. (i) and (ii)

B. (iii) and (iv)

C. (i), (ii) and (iii)

D. (i), (ii), (iii) and (iv)

Answer: D

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60. 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

Answer: D

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

Column I	Column II
Catalytic converter	(i)Used in industries and power plants
Electrostatic precipitator	(ii)Used in automobiles
Earmuffs	(iii)High noise level
Land fils	(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)

Answer: B

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

Column I	Column II
Nitrates	(i)Primary pollutant
E-Wastes	(ii)Minamata disease
Mercury	(iii)secondary pollutant
DDT	(iv)Blue-baby syndrome
PAN	(v)Electronic wastes

A. A-(ii), B-(iv), C-(v), D-(i), E-(iii)

B. A-(iv), B-(v), C-(ii), D-(i), E-(iii)

C. A-(iv), B-(v), C-(iii), D-(ii), E-(i)

D. A-(ii), B-(v), C-(iv), D-(i), E-(iii)

Answer: B

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63. Some statements are given below each with one or two blanks. Select the option that correctly fills up the blanks.

(i) High concentration of DDT disturbs ___ in birds, which causes ___.

(ii) ___ burns more efficiently as compared to petrol and diesel.

(iii) __ is the natural ageing of a lake which occurs due to accumulation of ___.

(iv) _____ reduces the number of organisms which are sensitive to high temperature.

(v) Irreparable computers and other electronic goods are known as ___.

A. (i) calcium metabolism, thinning of egg shell (ii) CNG (iii) Eutrophication, nitrates and phosphates (iv) Thermal wastewater (v) electronic waste

B. (i) protein metabolism, thickening of egg shell (ii) CNG (iii) Eutrophication, nitrates and phosphates (iv) Thermal wastewater (v) electronic waste

C. (i) calcium metabolism, thinning of egg shell (ii) Coal (iii) Biomagnification, nitrates and phosphates (iv) Organic wastewater (v) inorganic waste

D. (i) calcium metabolism, thckening of egg shell (ii) CNG (iii) Biomagnification, DDT and mercury (iv) Thermal wastewater (v) electronic waste

Answer: A

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64. Polyblend is

A. a mixture of two different types of plastics

B. a fine powder of recycled modified plastic

C. a blend of plastic and bitumen

D. none of these

Answer: B

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65. Read the following statements and select the correct ones.

(i) Ahmed Khan, a plastic sack manufactturer of Bangalore, in 1998, developed polyblend, a fine powder of recycled modified plastic.

(ii) In collaboration with RV College of Engineering and Bangalore City Corporation, he proved that the mixture of polyblend and bitumen was better for road carpeting as it had better water repellent property.

(iii) By 2002, more than 40 km roads of Bangalore were laid with the help

of Khan's mixture

(iv) Rag pickers who used to get 0.40 per kg of plastic waste started getting 6.00 from Ahmed Khan.

(v) INnovation like polyblend might help the modern society from being smothered with plastic waste.

A. (i), (ii) and (iii)

B. (ii), (iv) and (v)

C. (iii), (iv) and (v)

D. All of these

Answer: D

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66. Select the correct statement regarding intergrated organic farming.

A. It is a cyclical, zero waste procedure where waste products from one process are cycled in as nutrients for other processes.

B. In this process, industrial wastes is used to manufacture product such as polyblend.

C. In this process, chemical fertilisers are used to increase yield.

D. both (a) and (c)

Answer: A

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67. 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

Answer: A

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68. Select the correct statement out of the following.

A. Electrostatic precipitators (ESPs) can remove over 99 % particulate matter present in the exhaust from a thermal power plant.

B. Over half of the e-wastes generated in developed countries are exported to developing countries, mainluy to China, India and Pakistan, where metals like Cu, Fe, Si Ni, etc., are recovered during recycling process.

C. Use of nuclear energy has two very serious inherent problems first is accidental leakage and the second is safe disposal of radioactive wastes.

D. All of these.

Answer: D

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69. The effect of today's radioactive fallout will probably be more harmful to children of futrure generation than to present day children because

A. infants are more susceptible to radiations

B. susceptibility to radiations increase with age

C. mutated genes are usually recessive

D. all of these.

Answer: C

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70. Which of the following isotpes is most dangerous to human beings ?

A. Phosphorus-32

B. Strontium-90

C. Caesium -137

D. Iodine-131

Answer: B

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71. If there is no greenhouse effect, then the average temperature at surface of earth would have been

A. $15^\circ C$

B. $-18^\circ C$

C. $-6^\circ C$

D. $10^\circ C$

Answer: B

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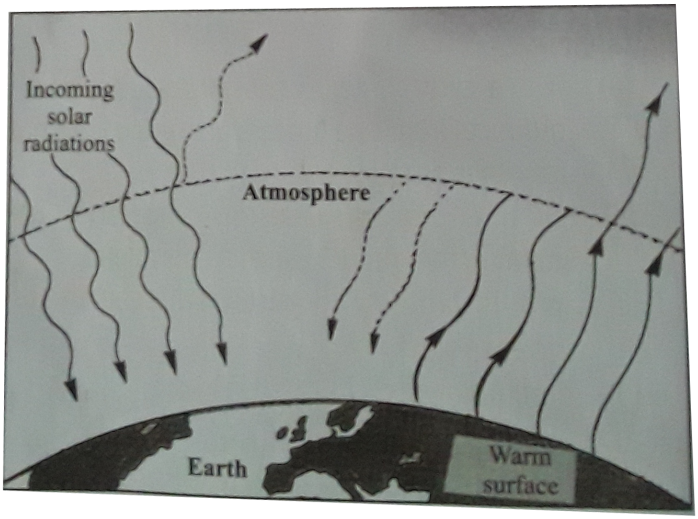
72. Study carefully the following figure representing greenhouse effect.

Select the correct statements regarding this.



A. Much of the long wavelength infrared radiations reradiated by the earth's surface are absorbed by the atmospheric greenhouse gases.

B. $CO_2, CH_4, CFCs$ and N_2O are the gases which are responsible for greenhouse effect.

C. The atmosphere is transparent to the incoming short-wavelength radiations and is translucent to the long-wavelength infra-red radiations.

D. All of these

Answer: D

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

A. They are long wave radiations.

B. The are short wave radiations.

C. They are visible radiations.

D. None of these.

Answer: A

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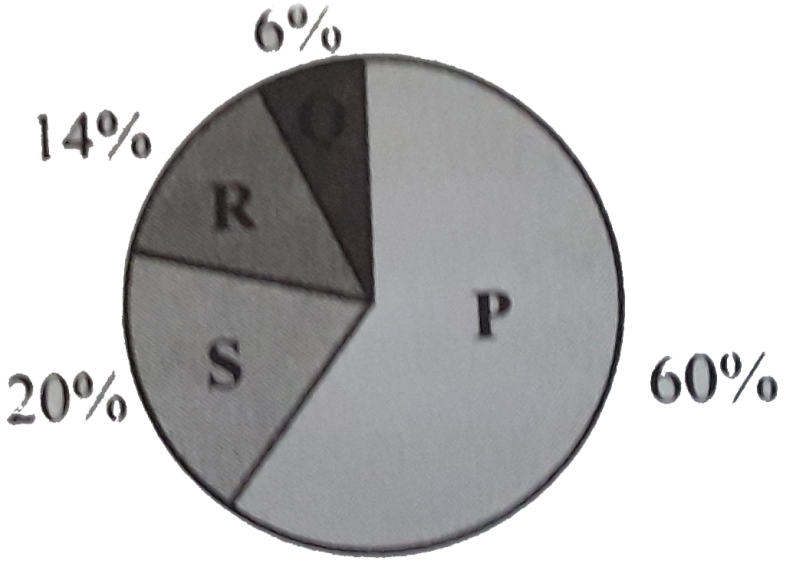
74. Given pie-diagram represents the relative contribution of various greenhouse gases to total global warming. Identify the gases P, Q, R and S.



A. P Q R S
N_2O $CFCs$ CO_2 Methane

B. P Q R S
N_2O Methane $CFCs$ CO_2

C. P Q R S
CO_2 N_2O $CFCs$ Methane

D. P Q R S
CO_2 $CFCs$ N_2O Methane

Answer: C

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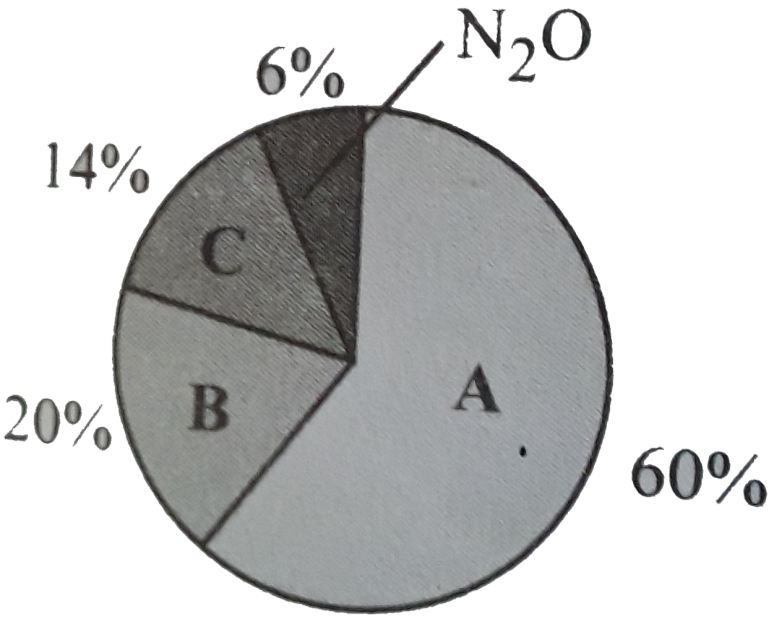
75. Given pie-diagram represents the relative contribution of various GHGs to total global warming. Select the correct statements(s) regarding A, B and C.



A. A is the gas which is produced during the combustion of fossil fuels.

B. B are the chemicals which are used as coolants in refrigerators.

C. C is the gas which is the major constituent of biogas.

D. All of these

Answer: A

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76. Read the given statements and select the correct option.

Statement 1 : Average temperature of Earth has increased by $0.6^{\circ}C$ during the past century.

Statement 2 : There has been a progressive increase in the use of fossil fuels generating more greenhouse gases.

A. Both statements 1 and 2 are correct.

B. Statement 1 is correct but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: A

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77. High concentration of greenhouse gases has resulted in maximum rise of atmospheric temperature in

A. tropic region

B. middle latitude

C. polar region

D. temperate region.

Answer: C

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78. Greenhouse effect is due to

A. accumulation of O_3 and depletion of CO_2

B. accumulation of both O_3 and CO_2

C. accumulation of CO_2 and depletion of O_3

D. presence of green plants on the Earth.

Answer: C

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79. Which of the following is correct regarding 'EI 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

Answer: A

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80. Which of the following are the correct approaches to reduce global warming ?

(i) Use of fossil fuels

Improving efficiency of energy usage

(iii)Afforestation

(iv) Increasin growth of human population

A. (i) and (ii)

B. (ii) and (iii)

C. (iii) and (iv)

D. (i), (ii) and (iii)

Answer: B

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81. Read the following statements and select the correct option.

Statement 1 : Ozone layer present in the stratospher protects the living organisms from harmful UV rays coming from sun by absorbing nearly all of them.

Statement 2 : Ozone formed in the troposphere by photochemical reactions as a result of human activities is harmful for all living organisms.

A. Both statements 1 and 2 are correct.

B. Statement 1 is correct but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: A

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82. Ozone layer of upper atmosphere is being destroyed by

A. chlorofluorocarbons

B. SO_2

C. O_2 and CO_2

D. smog.

Answer: A

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83. The major ozone depleting substance out of the following is

A. CFCs

B. O_2

C. nitrogen

D. all of these.

Answer: A

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84. Ozone depletion is occurring widely in

A. troposphere

B. stratosphere

C. ionosphere

D. all of these.

Answer: B

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85. Select the correct arrangement of the types of ultraviolet radiations according to the intensity of their effect on human skin

A. $UV-A>UV-B>UV-C$

B. $UV-B>UV-C>UV-A$

C. $UV-C>UV-B>UV-A$

D. $UV - A > UV - C > UV - B$

Answer: B

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86. 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

Answer: B

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87. Increasing skin cancer and high mutation rate are the result of

A. ozone depletion

B. acid rain

C. CO pollution

D. CO_2 pollution.

Answer: A

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88. Montreal Protocol is associated with

A. control of emission of ozone depleting substances

B. control of radioactive wastes

C. control of desertification

D. protection and management of forsets.

Answer: A

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89. Which of the following statements regarding ozone is incorrect ?

A. Good ozone' is formed in the lower atmosphere (troposphere) that absorbs harmful UV rays coming from Sun, 'bad ozone' is present in the upper part of atmosphere (stratosphere) that harms plants and animals.

B. The thickness of the ozone in a column of air from the ground to the top of the atmosphere is measured in terms of Dobson units (DU).

C. Recognising the deleterious effects of ozone depletion, an international treaty, known as the Montreal Protocol, was signed at

Montreal (Canada) in 1987 (became effective in 1989) to control the emission of ozone depleting substances.

D. None of these

Answer: A

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90. Read and select the incorrect option about desertification.

A. A desert is created when barren patches of land meet.

B. Desertification is the result of increased urbanisation.

C. Deserts are arid patches of land.

D. Slash and burn method is one of the major cause of desertification.

Answer: D

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91. Read the given statements and select the correct option.

Statement 1 : Irrigation without proper drainage of water leads to waterlogging in the soil.

Statement 2 : Waterlogging draws salts to the soil surface, which are deposited as a thin crust on the land surface or start collecting at the roots of the plants.

A. Both statements 1 and 2 are correct.

B. Statement 1 is correct but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: A

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92. Read the following statements carefully and select the incorrect ones.

(i) Development of the fertile top-soil takes centuries, but it can be easily

removed due to human activites such as over-cultivation, unrestricted grazing, etc.

(ii) Waterlogging results in soil salinity.

(iii) UV rays are responsible for degradation of ozone shield in atmosphere.

(iv) Ozone present in troposphere acts as a shield abosrbing UV radiations coming from the Sun.

(v) Global warming can be controlled by increasing the use of fossil fuels.

A. (i), (iii) and (v)

B. (iii), (iv) and (v)

C. (iv) and (v)

D. (i), (ii) and (iii)

Answer: C

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93. Waterlogging and soil salinity are some of the problems that have come in

A. Soil erosion

B. White revolution

C. Green revolution

D. Blue revolution.

Answer: C

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94. National Forest Policy of India has recommeded (i) forest cover for the plains and (ii) for the hills.

A. $\begin{matrix} i & ii \\ 33\,\% & 67\,\% \end{matrix}$

B. $\begin{matrix} i & ii \\ 67\,\% & 33\,\% \end{matrix}$

C. $\begin{matrix} i & ii \\ 50\,\% & 50\,\% \end{matrix}$

D. $\begin{matrix} i & ii \\ 40\,\% & 60\,\% \end{matrix}$

Answer: A

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95. Which of the following statements is not correct regarding jhum cultivation ?

A. It is also called as shifting cultivation and has resulted in deforestation.

B. It helps in increasing crop yield to a considerable extent.

C. A time-grap of several years is required for the recovery of the land after cultivation.

D. It involves cutting down of trees of the forest, burning of the plant remains and then using the land for farming.

Answer: B

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96. Read the given statements and select the correct option.

Statement 1 : Reforestation is the process of restoring a forest that once existed but was removed at some point of time in the past.

Statement 2: Reforestation may occur naturally in a deforested area, however it can be speeded up by planting trees with due consideration to biodiversity that earlier existed in that area.

A. Both statements 1 and 2 are correct.

B. Statement 1 is correct but statement 2 is incorrect

C. Statement 1 is incorrect but statement 2 is correct.

D. Both statements 1 and 2 are incorrect.

Answer: A

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

A. reducing environment pollution

B. reducing global warming

C. protecting wildlife

D. reforestation in deforested area.

Answer: C

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

Column I	Column II
Bishnoi community	(i)Rajasthan
Chipko movement	(ii)Reduce the emission of ozone depleting substance
Montreal protocol	(iii)Garhwal Himalyas
Kyoto protocol	(iv)Reduce the emission of greenhouse gases

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

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

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

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

Answer: A

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99. Identify the incorrectly matched pair.

A. Chipko movement - Protection of trees

B. Kyoto protocol - Climatic change

C. Montreal protocol - Forest conservation

D. Ramsar convention - Conservation and sustainable utilisation of wetlands

Answer: C

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100. The concept of Joint Forest Management (JEM) involves

A. conservation of forest and agricultural land by the government

B. conservation of forests and wildife by the local communitites

C. work in close association with the local communities for protecting and managing forests

D. exploitation of beneficial forest products only.

Answer: C

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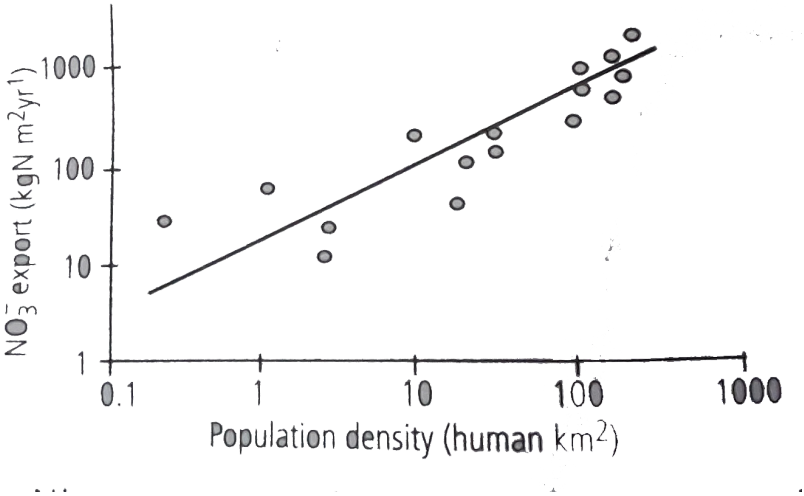
101. The given graph shows how much nitrate $\left(NO_3^-\right)$ is exported from the continent towards the ocean by 16 major rivers in the world rivers in the world compared to the density of human populations living along those drainage basins (i.e., along these rivers). What interpretation can

be drawn from this graph ?



A. Nitrate exported through rivers from heavily populated cities can cause eutrophication and toxic algal bloom in marine coastal regions.

B. Small drainage basins export more NO_3^-.

C. Drainage basins with higher populstion densities export lesser NO_3^-.

D. both (a) and (c)

Answer: A

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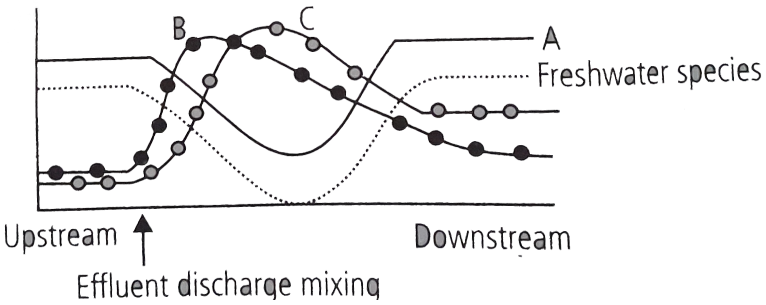
102. The graph given below represents changes in different ecological parameters due to effluent mixing in a stream. The three lines A, B anc C represent



A. A: oxygen concentration

B: biological O_2 demand

C: pollution resistant species

B. A: pollutan

B: aerobic process

C: anaerobic process

C. A: oxygen concentration

B: CO_2 concentration

C: termperature

D. A: phosphate concentration

B: nitrate concentration

C: rate of photosynthesis.

Answer: A

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103. The concentration of polychlorinated biphenyls (PCB, an organochloride contaminant) in many fish population 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 know to biomagnify. Based on this knowledge, what type of fish is expected to be safest for human consumption ?

A. Piscivorous fish species (i.e., which eat other fish)

B. Benthivorous fish species (i.e., which eat invertebrates on the lake bottom)

C. Small (young) fish

D. Fish species with high fat content

Answer: C

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104. In the event of global warming, which one of the following is most likely to occur ?

A. Existing plant and animal communities will move North in reponse to warming.

B. Agriculture in the Prairie provinces will be redeveloped on soils of the Canadian Shield.

C. The anticipated rise in sea level will be caused primarily by the melting of polar ice caps.

D. The decomposition of organic matter in the unfrozen surface layer of polar soils will increase.

Answer: C

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105. In the human-induced process called acid precipitation, the main biogeochemical cycles that are altered are the _____ cyucles and one effect in lakes is to ___ population of nitrifying bacteria.

A. phosphorus and nitrogen, decrease

B. nitrogen and sulphur, decrease

C. nitrogen and sulphur, increase

D. phosphorus and sulphur, decrease

Answer: B

Watch Video Solution

106. Non-biodegradable pollutants are created by

A. nature

B. excessive use of resources

C. humans

D. natural disasters.

Answer: C

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107. According to the Central Pollution Control Board, particles that are responsible for causing great harm to human health are of diameter

A. 2.50 micrometers

B. 5.00 micrometers

C. 10.00 micrometers

D. 7.5 micrometers.

Answer: A

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

A. cotton

B. coir

C. wood

D. styrofoam.

Answer: D

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109. Compressed Natural Gas (CNG) is

A. propane

B. methane

C. ethane

D. butane.

Answer: B

Watch Video Solution

110. World's most problematic aquatic weed is

A. Azolla

B. Wolffia

C. Eichhornia

D. Trapa.

Answer: C

Watch Video Solution

111. Which of the following causes biomagnification ?

A. SO_2

B. Mercury

C. DDT

D. Both (b) and (c)

Answer: D

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112. The expanded form of DDT is

A. dichloro diphenyl trichloroethane

B. dichloro diethyl trichlooroethane

C. dichloro dipyrdyl trichloroethane

D. dichloro diphenyl tetrachloroacetate.

Answer: A

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

A. Cotton

B. Paper

C. Bone

D. Jute

Answer: C

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114. Chosse 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 incinertators is crucial to disposal of hospital wastes.

Answer: C

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115. Among the following which one causes more indoor chemical pollution ?

A. Burning coal

B. Burning cooking gas

C. Burning mosquito coil

D. Room spray

Answer: A

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116. The green scum seen in the freshwater bodies is

A. blue green algae

B. red algae

C. green algae

D. both (a) and (c)

Answer: D

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117. The loudness of a sound that a person can withstand without discomfort is about

A. 150 db

B. 215 db

C. 30 db

D. 80 db.

Answer: D

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118. The major source of noise pollution, worldwide is due to

A. office equipment

B. transport system

C. sugar, textile and paper industries

D. oil refineries and thermal power plants.

Answer: B

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119. Match correctly the following and choose the correct option.

Environment Protection Act	A, 1974
Air prevention and control of Pollution Act	B. 1987
Water Act	C. 1986
Amendment of Air Act to include noise	D. 1981

The correct match is

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

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

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

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

Answer: A

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120. Catalytic converters are fitted into automobiles to reduce emission of harmful gases. Catalytic convertes change unburnt hydrocarbons into

A. carbon dioxide and water

B. carbon monooxide

C. methane

D. carbon dioxide and methane.

Answer: A

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121. Why is it necessary to remove sulphur from petroleum products ?

A. To reduce the emission of sulphur dioxide in exhaust fumes

B. To increase efficency of automobiles engines

C. To use sulphur removed from petroleum for commercial purposes

D. To increase the life span of engine silencers

Answer: A

Watch Video Solution

122. Which one of the following impuritites is easiest to remove from wastewater ?

A. Bacteria

B. Colloids

C. Dissolved soilds

D. Suspended solids

Answer: D

Watch Video Solution

123. Which one of the following diseases is not due to contamination of water ?

A. Hepatitis-B

B. Jaundice

C. Cholera

D. Typhoid

Answer: A

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124. 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.

Answer: D

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125. Algal blooms impart a distinct colour to water due to

A. their pigments

B. excretion of coloured substances

C. formation of coloured chemicals in water facilitated by physiological degradation of algae

D. absorption of light by algal cell wall.

Answer: A

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126. Match the items in column I and column II and choose the correct option.

Column I	Column II
UV	(i)Biomagnificatron
Biodegradable organic matter	(ii)Eutrophication
DDT	(iii)Snow blindness
Phosphates	(iv)BOD

The correct match is :

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

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

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

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

Answer: C

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127. In the textbook you came acroos Three Mile Island and Chernobyl disasters associated with accidental leakage of radioactive wastes. In India we had Bhopal gas tragedy. It is associated with which of the following ?

A. CO_2

B. Methyl Isocyanate

C. CFC's

D. Methylcyanate

Answer: B

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128. Assertion : Photochemical smog is mainly composed of nitrogen oxides, volatile organic compounds, ozone and peroxyacyl nitrates.

Reason : Photochemical smog develops in cold weather conditions by the interaction of secondary pollutants.

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129. 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.

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130. Assertion : Through the use of catalytic converters, unburnt hydrocarbons are changed into carbon monoxide which in turn is changed into nitrogen oxides and water.

Reason : Motor vehicles equipped with catalytic converters should use leaded petrol to protect the catalyst from degradation.

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131. Assertion : Compressed natural gas (CNG) is natural gas under pressure and mainly composed of methane.

Reason : One of the advantages of using CNG as a fuel in automobiles is that it requires very less space for storage as compared to that of petrol or diesel.

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132. Assertion : Bharat stage IV emission norms have been in place since April 2010, for 4 wheelers in 13 mega cities of India.

Reason : Green muffler scheme refers to the plantation of trees and shrubns along road sides and is effective to control noise pollution only.

Watch Video Solution

133. Assertion : A brief expoosure to extremely high sound level, 150dB or more generated by take off of a jet plane or rocket, may damage ear drum or dislocate ear ossicles and permanently impair the hearing ability.

Reason : In India, the Air (Prevention and Control of Pollution) Act came into force in 1981, but was amended in 1987 to include noise as an air pollutant.

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134. Assertion : Sewage, industrial effluents and waste water are non-point sources of water pollution.

Reason : Surface runoff is point source of water pollution.

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135. Assertion : There is a sharp decline in dissolved oxygen downstream from the point of sewage discharge.

Reason : Microoganisms ionvolved in biodegradation or organic matter in the receiving water body consume a lot of oxygen.

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136. Assertion : Heavy metals and persistent pesistent pesticides pass into the food chain and increase in amount per unit weight of the organism at successive trophic levels.

Reason : Heavy metals and persistent pesticides can be easily metabolised by the organism's body.

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137. Assertion : Cultural eutrophication is nutrient enrichment of water bodies due to human activities like passage of sewage, industrial effluents, etc.

Reason : The prime contaminants from sewage and industrial effluents are nitrates and phosphates, which act as plant nutrients and overstimulate the growth of algae.

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138. 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.

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139. Assertion : Contribuition of $CO_2, CH_4, CFCs$ and N_2O towards greenhouse effect is respectively 60%, 6 %, 14 % and 20 %.

Reason : Greenhouse gases are radioactively active gases which prevent the short wavelength radiations emitted by earth to escape into space.

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140. Assertion : An equilibrium is established is istablished between generation and destruction of ozone, leading to a steady state concentration of ozone layer in the stratosphere at an altitude of 20-30 km above sea level.

Reason : The thickness of the ozone layer is generally larger above the equator and smaller above the poles.

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141. 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 1987, has specified the commitments of different countries to mitigate climate change.

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

Reason : Deforestation may lead to desertification.

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