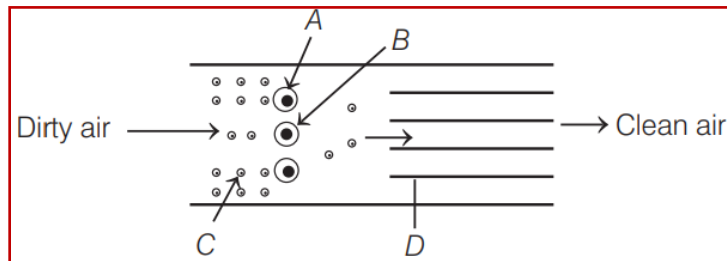


ENVIRONMENTAL ISSUES

1. Fine organic or inorganic particles suspended in air is called
 - (A) gaseous pollutant
 - (B) particulate pollutant
 - (C) aerosols
 - (D) None of these
2. In plants, air pollution causes
 - (A) reduce growth and yield
 - (B) leads to premature death
 - (C) Both(A) and(B)
 - (D) None of the above
3. Which method is used to remove particulate matter present in exhaust of thermal power plant?
 - (A) Wet scrubbers
 - (B) Absorption
 - (C) Electrostatic precipitator
 - (D) Gravitational method
4. The diagram given below shows electrostatic precipitator. Identify A, B, C, D and select the correct option.

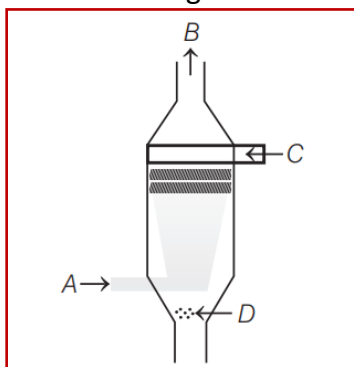


- (A) A–Dust particle, B–Negatively charged wire, C–Discharge corona, D–Collection plate grounded
 - (B) A–Discharge corona, B–Collection plate grounded, C–Dust particle, D–Negatively charged wire
 - (C) A–Discharge corona, B–Negatively charged wire, C–Dust particle, D–Collection plate grounded
 - (D) A–Discharge corona, B–Dust particle, C–Negatively charged wire, D–Collection plate grounded
5. In electrostatic precipitator, electrode wires are provided with an electric current of several thousand volts, to produce a corona that release ...A...These particles attaches to

dust particle and given them a ...B... charge within a very small fraction of a second. Here, A and B refer to

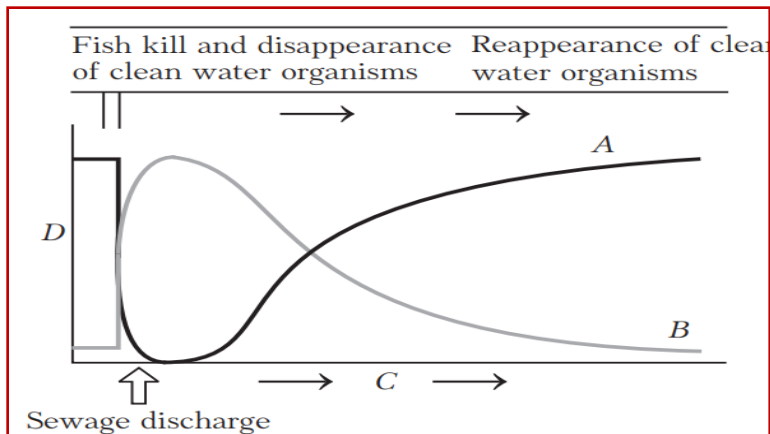
- (A) A–electron, B–positive
- (B) A–neutron, B–negative
- (C) A–electron, B–negative
- (D) A–proton, B–positive

6. The below diagram shows a scrubber. Identify A, B, C and D.



- (A) A–Particulate matter, B–Clean air, C–Dirty air, D–Dust particle
 - (B) A–Dirty air, B–Clean air, C–Water/lime spray, D–Particulate matter
 - (C) A–Clean air, B–Dirty air, C–Particulate matter, D–Water/lime spray
 - (D) A–Dust particle, B–Clean air, C–Particulate matter, D–Collection plate grounded
7. Which of the following health problems originate due to the inhalation of fine particulate matter?
- (A) Irritation
 - (B) Inflammation of respiratory tract
 - (C) Damage of lungs and premature deaths
 - (D) All of the above
8. In catalytic converters, hydrocarbons which are unburnt and carbon monoxide and nitric oxide are changed into
- (A) CO_2 and N_2 ; respectively
 - (B) CO_2 and H_2O ; CO_2 and N_2 , respectively
 - (C) O_2 and CO_2 ; N_2 , respectively
 - (D) H_2O ; CO_2 and N_2 , respectively
9. Which of the following problem(s) is/are created by a brief exposure to extremely high sound level, 150 dB or more generated by take off of a jet plane or rocket?
- (A) Deafness

- (B) Damage eardrums
 - (C) Both(A) and(B)
 - (D) None of the above
10. Euro III norms were stipulated to control
- (A) carbon content
 - (B) sulphur content
 - (C) nitrogen content
 - (D) phosphorus content
11. Water pollution due to faecal matter is indicated by
- (A) Escherichia coli
 - (B) Rhizobium
 - (C) Bacillus
 - (D) Streptococcus
12. The amount of biodegradable organic matter in sewage water can be estimated by measuring
- (A) biological oxygen demand
 - (B) biochemical oxygen demand
 - (C) the growth of microorganism in water
 - (D) the growth of bacteria in water
13. Biochemical Oxygen Demand(BOD) may not be a good index for pollution in water bodies receiving effluents from
- (A) domestic sewage
 - (B) dairy industry
 - (C) petroleum industry
 - (D) None of the above
14. Given below is a flow chart showing the effect of sewage discharge on some important characteristics of a river. Read carefully and identify A, B, C and D.



- (A) A–BOD, B–Dissolved oxygen, C–Concentration, D–Direction of flow
 (B) A–Dissolved oxygen, B–BOD, C–Direction of flow, D–Concentration
 (C) A–Dissolved oxygen, B–BOD, C–Concentration, D–Direction of flow
 (D) A–BOD, B–Dissolved oxygen, C–Direction of flow, D–Concentration
15. Which of the following options is/are incorrect about algal bloom?
 (A) Formed by blue-green algae(B) Causes deterioration of water quality and fish mortality
 (C) Causes depletion of O₂ in water
 (D) Growth of Eichhornia causes discolouration of water
16. Hyacinth is termed as the terror of Bengal, how it causes death of fishes?
 (A) Covers the surface of the water that inhibits sunlight to pass through
 (B) Drains oxygen from the water that causes oxygen deficiency
 (C) Absorbs nutrients from the water that causes malnutrition
 (D) Releases carbon dioxide in a huge amount which is lethal to fishes
17. Which of the following options pertain to eutrophication?
 (A) Occurs due to addition of artificial or natural nutrients
 (B) Results in algal bloom
 (C) More precisely called hypertrophication
 (D) All of the above
18. Choose the incorrect pair.
 (A) Eutrophication – Natural ageing of lake
 (B) Phosphorus – Decreases the growth of aquatic organisms
 (C) Eichhorniacrassipes – Grow abundantly in eutrophic water bodies
 (D) Nitrates – Overstimulate the growth of algae
19. Ecological sanitation is a sustainable system for handling human excreta, using dry composting toilets. Such 'EcoSan' toilets are working in

- (A) Asom and West Bengal
 - (B) Andhra Pradesh and Maharashtra
 - (C) Kerala and Sri Lanka
 - (D) Karnataka and Andhra Pradesh
20. Sanitary landfills were adopted as the substitute for open-burning dumps, but it is not really much of a solution to manage solid waste in metro cities. Why?
- (A) The sites are getting filled due to increased garbage generation
 - (B) There is a danger of seepage of chemicals, polluting the underground water
 - (C) Both(A) and(B)
 - (D) None of the above
21. A feature of integrated organic farming is that
- (A) in this process, waste products from one process are recycled and used as nutrients for other processes
 - (B) industrial wastes are utilised for manufacturing products like polyblend
 - (C) chemicalfertilisers are used to increase yield
 - (D) Both(A) and(C)
22. What steps should be taken for the disposal of nuclear waste?
- (A) Nuclear waste should be pre-treated
 - (B) It should be stored in shielded containers
 - (C) It should be buried about 500 m deep with in rock
 - (D) All of the above
23. Why do you think burying radioactive waste deep is not agreeable to many people?
- (A) Because it takes several decades to decay
 - (B) Because it still have radioactive properties and can pose threat
 - (C) Both(A) and(B)
 - (D) None of the above
24. A naturally occurring phenomenon that is responsible for heating of earth's surface and atmosphere due to the presence of certain gases in the atmosphere is
- (A) greenhouse effect
 - (B) solar effect
 - (C) ozone layer effect
 - (D) None ot the above
25. What is the result of greenhouse effect?
- (A) Melting of polar ice-caps
 - (B) CO₂fertilisation effect
 - (C) Rising of sea level and global warming

- (D) All of the above
 - (D) sugar industry
26. Carbon dioxide is called greenhouse gas because it is
- (A) used in greenhouse to increase plant growth
 - (B) transparent to heat but traps sunlight
 - (C) transparent to sunlight but traps heat
 - (D) transparent to both sunlight and heat
27. A balance should exist between production and degradation of ozone. By which factor this balance is being disrupted and causes reduction of ozone content of atmosphere? Choose the correct option.
- (A) Greenhouse gases
 - (B) Chlorofluorocarbons
 - (C) Nitrous oxide
 - (D) Aromatic compounds
28. Identify the incorrect match.
- (A) UV-B — Damages DNA and causes mutation
 - (B) UV-A — Passes through the ozone and reaches the earth's surface
 - (C) Ozone hole — A large area of thinned ozone layer
 - (D) None of the above
29. The fertile top soil is removed by human activities like
- (A) over-cultivation
 - (B) unrestricted grazing
 - (C) deforestation and poor irrigation practices
 - (D) All of the above
30. Desertification has become a major problem due to
- (A) decreased natural resources
 - (B) increased urbanisation
 - (C) increased population
 - (D) All of these
31. Slash and burn agriculture in North-Eastern states of India is also called
- (A) ley farming
 - (B) commercial agriculture
 - (C) Jhum cultivation
 - (D) All of these

32. Jhum cultivation refers to
- (A) cultivation of neem tress
 - (B) cultivation of medicinal plants
 - (C) tribal method of shifting cultivation
 - (D) cultivation of timber plants
33. Indian government recently instituted 'Amrita Devi Bishnoi Award'. This is awarded to individuals and communities from rural areas involved in
- (A) wildlife protection and conservation
 - (B) forestmangement
 - (C) environment protection
 - (D) tree plantation
34. Increased soil fertility, decreased soil erosion and desertification, restore biodiversity, etc. All these can be achieved by
- (A) joint forest management
 - (B) reforestation
 - (C) silviculture
 - (D) All of the above

Answer Key

1	(B)	2	(C)	3	(C)	4	(C)	5	(C)
6	(B)	7	(D)	8	(B)	9	(C)	10	(B)
11	(A)	12	(B)	13	(C)	14	(B)	15	(D)
16	(B)	17	(D)	18	(B)	19	(C)	20	(C)
21	(A)	22	(D)	23	(C)	24	(A)	25	(D)
26	(C)	27	(B)	28	(D)	29	(D)	30	(D)
31	(C)	32	(C)	33	(A)	34	(D)		

HINTS & EXPLANATIONS

- 3.(C) Electrostatic precipitator is used to remove particulate matter present in the exhaust of thermal power plant. These are very efficient devices, which remove 99% of particulates of 5-20 μm size, present in the industrial and thermal plant exhausts.
- 9.(C) A brief exposure to extremely high sound level, 150 dB or more generated by a jet plane or rocket takes off, may damage eardrums thus, permanently impairing hearing ability(deafness).
- 10.(B) Euro-III norms were stipulated to control sulphur content at 350 ppm in diesel and 150 ppm in petrol.
- 12.(B) The amount of biodegradable organic matter in sewage water can be estimated by measuring biochemical oxygen demand. Biochemical Oxygen Demand(BOD) is the amount of oxygen used for biochemical oxidation by microorganisms in a unit volume of water. Polluted water has high BOD. Thus, when sewage gets mixed with river water, its BOD will increase.
- 13.(C) Biochemical Oxygen Demand(BOD) is not a good index for checking the pollution levels of waterbodies receiving effluents from petroleum industry. This is because petroleum industries release non-biodegradable waste, which cannot be degraded by microbes.
- 15.(D) Option(D) is incorrect for algal bloom and can be corrected as Growth of planktonic algae not Eichhornia causes water discolouration. Rest all are correct.
- 16.(B) Water hyacinth(Eichhornia) causes death of fishes as it reduces the O_2 level in water. It is termed as the terror of Bengal because it drains dissolved oxygen of the water, i.e. increases BOD(Biochemical Oxygen Demand). It grows abundantly in eutrophic water body and imbalances water ecosystem, leading to the death of fishes.
- 18.(b) Option(B) represents the incorrect pair and can be corrected as Phosphorus encourages the growth of aquatic organisms. Rest other options are correctly matched.
- 26.(C) The excess amount of CO_2 forms a thick 'blanket' in the atmosphere, which is transparent to sunlight, but absorbs infrared radiations trapping heat near the earth's surface. In this way, due to the CO_2 blanket, the earth's atmosphere works very much like a greenhouse, which causes warming up of the interiors. So, carbon dioxide is called a greenhouse gas.
- 31.(C) In tribal North-Eastern states of India, farmers perform Jhum cultivation in which trees of the forest are cut down and burned. The ash produced is used as a fertiliser and the land is then used for farming or cattle grazing. After cultivation, the area is left for several years so as to allow its recovery and repeat this process

in another area. Thus, this shifting cultivation method also contributes in deforestation.