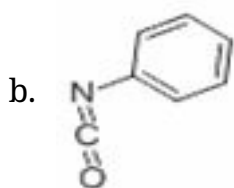


**CBSE Test Paper 04**  
**Ch-16 Environmental Issues**

1. Every year 2nd December is observed in India as National Pollution Prevention Day marking the anniversary of Bhopal gas disaster and the chemical representation of lethal gas responsible for this tragedy is

a.  $C_2H_3NO$



c.  $C_4H_9NO$

d.  $C_3H_5NO$

2. Reserpine is obtained from

a. *Taxus brevifolia*

b. *Catharanthus roseus*

c. *Cinchona officinalis*

d. *Rauwolfia vomitoria*

3. Match the following:

Pollutant	Source
a) nitrogen oxides	i) jet aeroplane emissions
b) fluorides	ii) coal burning
c) PCBs	iii) lightening
d) Chlorofluorocarbons	iv) burning plastics

a. a)-ii, b)-iii, c)-ii, d)-iv

b. a)-iii, b)-i, c)-iv, d)-ii

c. a)-iv, b)-i, c)-ii, d)-iii

d. a)-iii, b)-ii, c)-iv, d)-i

4. Match the following:

Pollution control law	Year of implementation
a) Insecticide Act	i) 1986

b) Water Act	ii) 1981
c) The Air Act	iii) 1974
d) The Environment Act	iv) 1968

- a. a)-ii, b)-iii, c)-ii, d)-iv
- b. a)-iv, b)-iii, c)-ii, d)-i
- c. a)-iv, b)-i, c)-ii, d)-iii
- d. a)-iii, b)-i, c)-iv, d)-ii

5. Green house gases are

- a. Transparent to both solar radiations and long wave radiations from earth.
- b. Transparent to emissions from earth for passage into outer space.
- c. Absorbers of solar radiations for warming the atmosphere or earth
- d. Absorbers of long-wave radiations from earth

6. What is Eutrophication?

7. All of a sudden a great many dead fish are found floating on the surface of a pond. What might be the cause of such a fish kill?

8. What is Biological magnification?

9. Name the acidic gases which causes acid rain?

10. Suggest any four control measures of noise pollution.

11. Government of India has launched clean Ganga programme by the name Ganga Action Plan. Do you want to be a part of it? How?

12. Jeevan was waiting at a bus stop. Many passengers along with their kids were on their way to school. A bus came and painted the children with black smoke ejected from the exhaust pipe. Jeevan immediately stopped the bus and called the conductor and driver to show what they had done. Passengers waiting in the bus stop supported Jeevan while those on board became restless for being delayed.

- i. What values did Jeevan promote through his action?
- ii. Why are children more affected by vehicle exhausts?
- iii. Cars are seen with Bharat stage IV stickers. What does it imply?

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iv. How do catalytic converters reduce vehicular gas emission?



13. Discuss briefly the Radioactive wastes.
14. Anil and Sunil are partners and established a factory. After a few months electrostatic precipitator became out of order. Sunil wanted to replace it but Anil expressed the view that they have no effect of it on productivity as well as income; therefore they should not waste money to replace it.
- (a) Out of these partners whom do you support and why?
- (b) Suggest any two measures to stop such negligence.
15. List all the wastes that you generate at home, schools or during your trip to other places could you very easily reduce? Which would be difficult or rather impossible to reduce?

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**Answer**

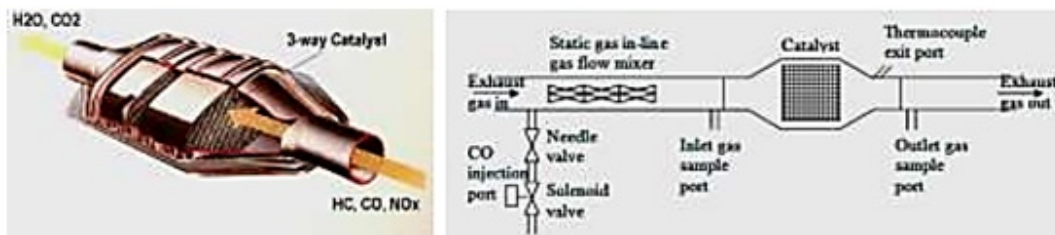
1. a.  $C_2H_3NO$ , **Explanation:** The Bhopal disaster or Bhopal gas tragedy was an industrial accident. It happened at a Union Carbide subsidiary pesticide plant in the city of Bhopal, India. On 3 December 1984, the plant released 42 tonnes of toxic methyl isocyanate (MIC) gas, exposing more than 500,000 people to toxic gases. The chemical formula of gas is  $C_2H_3NO$
2. d. Rauwolfia vomitoria, **Explanation:** Reserpine is a naturally occurring drug that has been used for centuries in ancient India. It is extracted from the root of Rauwolfia vomitoria, plants found extensively in Africa. In traditional herbal medicine, the root was brewed as a tea and used in humans to treat hypertension, insanity, snakebite, and cholera.
3. d. a)-iii, b)-ii, c)-iv, d)-i, **Explanation:** Nitrogen oxides is released by lightening, fluorides from coal burning, PCBs from burning plastics and chlorofluorocarbons from jet aeroplanes emissions.
4. b. a)-iv, b)-iii, c)-ii, d)-i, **Explanation:** Government of India has passed a number of acts to prevent pollution. Insecticide Act was passed in 1968. Water act in 1974, The air act in 1981 and The environment act in 1986.
5. d. Absorbers of long-wave radiations from earth, **Explanation:** Greenhouse gases in the atmosphere (such as water vapor and carbon dioxide) absorb most of the Earth's emitted longwave infrared radiation, which heats the lower atmosphere. In turn, the warmed atmosphere emits longwave radiation, some of which radiates toward the Earth's surface, keeping our planet warm and generally comfortable. Increasing concentrations of greenhouse gases such as carbon dioxide and methane increase the temperature of the lower atmosphere by restricting the outward passage of emitted radiation, resulting in "global warming," or, more broadly, global climate change.
6. **Eutrophication :** It refers to the nutrient enrichment in water bodies leading to lack of oxygen and deadening of life supporting environment.

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7. It is likely that eutrophication has occurred in the pond. If so, large algal blooms can result from the excess nutrients. As this dead organic matter falls to the lower depths, decomposers consume the organic matter, but deplete the  $O_2$  of water, which kills fish.
8. **Biological magnification:** It is the phenomenon in which harmful chemicals / pollutants get accumulated in the tissues of organisms in increasing concentrations as they travel along the food chain.
9. Acid rain is caused by a chemical reaction that begins when compounds like sulfur dioxide and nitrogen oxides are released into the air. These substances can rise very high into the atmosphere, where they mix and react with water, oxygen, and other chemicals to form more acidic pollutants, known as acid rain.
10.
  - By using sound absorbent materials.
  - Delimiting horn free ozone near hospitals, schools etc
  - Playing loudspeaker only in permissible limits and limiting the timings after which loudspeaker can not be played.
  - Having permissible sound levels of crackers.
11. Yes, I will start awareness programmes like Nukkad Nataks, rallies and slogans making to keep the river clean.

### Values

- Innovation
  - Service to society
12.
  - i. Jeevan shows alertness, responsibility and firmness in tackling a problem. He expresses boldness towards environment consciousness.
  - ii. The height of the smoke emitted from the exhaust pipe is closer to the height of the children.
  - iii. It indicates that the vehicles comply with the new auto fuel policy. At present vehicles complying Euro-IV or equivalent BS-IV norms are to ply in the identified 11 cities, rest of the country to follow Euro III / BS-III norms.
  - iv. In these devices, platinum-palladium and Rhodium are used as catalysts. As the exhaust passes through the converter, unburnt hydrocarbons are converted into  $CO_2$  and  $H_2O$ . Carbon monoxide and nitric oxide are changed into  $CO_2$  and  $N_2$  gas

respectively. Vehicles fitted with such equipment should run on unleaded petrol only since lead in petrol inactivates the catalysts.



13. **Radio Active Wastes.** They are wastes generated from nuclear plants which release radioactivity (emission of  $\alpha$  - particles,  $\beta$  - particles or  $\gamma$ -rays) from nuclide of their elements.

Depending upon the amount of radioactivity, there are three types of radioactive wastes - low level, intermediate level and high level.

High level radiations are highly destructive, emitted due to accidental leakage of atomic reactors. These radiations cause tumours, cancers and genetic disorders. High level wastes require special protective shields during handling and transport besides cooling.

14. a) I will support Sunil because his approach is eco friendly.  
 b) (I) By imposing fine and punishment  
 (II) Cancellation of registration of such industries

#### Values

- Decision making
- Concern about environment

15. **At home:** Paper, cloth, plastic, cans, carton box, crockery, thermocol.

**At School :** Paper, Chalk, envelops, polythenes.

**During Trips :** Disposable cups and glasses, spoons, discarded food, polythene.

**Wastes which can be reduced:** They are called biodegradable wastes which are broken down naturally by the microorganisms. They include all articles of organic origin i.e. food wastes, papers, wood, rags etc.

**Wastes which can not be reduced:** Broken glasses, metal cans, plastic and polythene articles can not be decomposed by microorganisms. They are called non-biodegradable.