



BIOLOGY

BOOKS - NEW JYOTHI BIOLOGY (TAMIL ENGLISH)

ENVIRONMENTAL ISSUES

Solutions To Ncert Exercises

1. What are the various constituents of domestic sewage ? Discuss the effects sewage

discharge on a river .



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2. List all the waste that you generate, at home , school or during your trips to other place, could you very easily reduce? Which would be difficult or rather impossible to reduce ?



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3. Discuss the causes and effects of global warming. What measures need to be taken to control global warming?



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4. Match the items given in columns A and B :

Column A	Column B
a. Catalytic converter	i. Particulate matter
b. Electrostatic precipitator	ii. Carbon monoxide and nitrogen oxides
c. Earmuffs	iii. High noise level
d. Landfills	iv. Solid wastes



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5. Write critical notes on the following :

(a) Eutrophication .

(b) Biological magnification .

(c) Groundwater depletion and ways for its replenishment .



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6. Why ozone hole forms over Antarctica ? How will enhanced ultraviolet radiation affect us ?



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7. Discuss the role women and communities in protection and conservation of forests.



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8. What measures, as an individual, you would take to reduce environmental pollution?



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9. Discuss briefly the following :

(a) Radioactive wastes .

(b) Defunct ships and e-waste .

(c) Municipal solid wastes.



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10. What initiatives were taken for reducing vehicular air pollution in Delhi ? Has air quality improved in Delhi ?



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11. Discuss briefly the following :

a. Greenhouse gases b. Catalytic converter c.

Ultraviolet B.



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New Evaluation Type Questions

1. Name two important methods to control air pollution industries .



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2. Name an instrument used in vehicles to reduce air pollution .



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3. Two very serious inherent problems related with nuclear energy .



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4. Name the Act passed by Government of India to protect and improve that quality of our environment .



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5. India will have Euro III emission norm complaint automobiles and fules by the year.



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6. What is the name given to irreparable computers and other electronic goods ?



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7. Inflammation of cornea due to high dose of UV-B radiation is called.



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8. Motor vehicles equipped with catalytic converter should use only unleaded petrol. Justify .



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9. High DDT pollution in water bodies caused decline in bird population . Evaluate .



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10. We have got used to associating loud sounds with pleasure and entertainment not realising that noise cause psychological and physiological disorders in humans . Comment on the various ill effectss of noise in human .



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11. Briefly explain the different measures to reduce noise pollution.



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12. CNG is better than other conventionally used fossil fuels. Comment .



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13. How can you measure the amount of biodegradable organic matter in sewage water .



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14. Write short note on algal bloom.



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15. Sewage treatment can be done by integrating artificial and natural processes. Explain this using the example of Arcata town.



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16. Are sanitary landfills a practical solution of dispose soild waste ? Why ?



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17. Enumerate some important measures for controlling global warming .



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18. Global warming is due to greenhouse effect. Explain both greenhouse effect and global warming.



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19. Define pollution. Compare the biodegradable and non-biodegradable pollutants.



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20. You have been appointed as the minister for food , agriculture and environment . Write down 6 laws you would like to implement in order to save our enviroment (write in order of priority).



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Questions From Previous Hse

1. Water pollution is caused mainly by three factors such as biological, chemical and physical. Can you name some chemical and physical factors of water pollution?



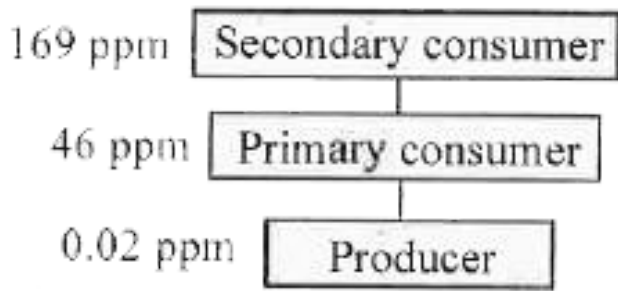
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2. A small fraction of the UV radiation reaches the earth. On the basis of wavelength three types of UV radiations are distinguished viz UV - C, UV - B and UV - A. Which one is lethal to organisms?



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3. The data collected from a water body located near an industry is displayed in the figure. Analyse the data.



Level of mercury in
different trophic levels

- Explain the observed differences in the levels of mercury between primary and secondary consumers.
- Mention the health problem associated with the consumption of fish captured from this water body.



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4. Comment on the following poster prepared by a group of students as part of their seminar.



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5. a. Biotic resources are classified as renewable, while biodiversity is classified as non-renewable. Justify the statement.

b. "Taungya system" belongs to social Forestry.

Do you agree with this statement ?

Substantiate your answer .



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6. a. Different kinds of pollutions are listed in column A of the following table . Choose the appropriate control measures from the list provided and fill up column B of the table :

A	B
Air pollution Water pollution Noise pollution Radioactive pollution	

(Lead panelling of walls and use of protective aprons , Electrostatic precipitators , incineration and pyrolysis , ozonization , planting trees and hedges).

b. In 1995, Nobel Prize of chemistry was awarded to Shewood Rowland, Mario Molina and Paul Curtzen in recognition of their contribution to enviroment science. Among the following , select those terms that are related to their research work.

[Carbon monoxide (CO), Ozone (O_3) , Carbon dioxide (CO_2) , Methane (CH_4) , Photochemical smo, Nitrous oxide (N_2O) ,

Sulphur dioxide (SO_2) Chlorofluorocarbons (CFCs).



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7. Destruction of forest leads to the increase of CO_2 in atmosphere . Recently Govt. of India instituted an award for individuals or communities from rural areas that have shown extraordinary courage and dedication in protecting wildlife.

a. Identify the award.

b. Comment on deforestation and reforestation.



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8. Industrial effluents and domestic sewage seriously affect fresh water bodies. For protecting aquatic life Govt. of India recently declared an animals as National aquatic animal.

a. Identify the animals.

ii. Distinguish biomagnification from eutrophication.



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9. In 1990s, Delhi ranked 4th among the most polluted cities of the world. But now air quality of Delhi has significantly improved mainly by switching vehicles from diesel to CNG.

a. Expand CNG.

b. CNG is better than diesel .Comment .



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10. Greenhouse effect is a naturally occurring phenomenon that is responsible for heating of earth's surface and atmosphere.

a. Explain greenhouse effect .

b. What will happen if there is absolutely no greenhouse effect over earth's surface ?



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[Previous Entrance Exam Corner](#)

1. Sambar lake containing brackish water is located in.

A. Andhra Pradesh

B. Kashmir

C. Madhya Pradesh

D. Rajasthan

Answer:



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2. The peak concentration of ozone above the surface of earth is present at a height of .

A. 10 Km

B. 15 Km

C. 20 Km

D. 30 Km

Answer: D



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3. The Minamata disease is caused by .

A. mercury

B. nitrites

C. CFC

D. DDT

Answer: A



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4. The ozone layer is present in

A. thermosphere

B. stratosphere

C. mesosphere

D. lithosphere

Answer: B



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5. Which of the following is a secondary pollutant ?

A. SO_2

B. SO_3

C. NO_2

D. PAN

Answer:



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6. In Bhopal gas tragedy the gas leaked was .

- A. methyl isocyanate
- B. sodium isocyanate
- C. ethyl isocyanate
- D. potassium isocyanate

Answer: A



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7. The 'minamata' disease is caused by.

A. chromiun

B. methyl mercury

C. cadmium

D. ferric chloride

Answer: B



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**8. National Environmental Engineering
Research Institute (NEERI) is in .**

A. New Delhi

B. Nagpur

C. Kolkata

D. Chennai

Answer: B



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9. The soil pollutants that affect the food chain and food web by killing microorganisms and plants are .

A. nitrogen oxides

B. pathogens

C. agricultural waste

D. pesticides

Answer:



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10. Eutrophication results in the reduction of .

A. mineal salts

B. dissolved oxygen

C. dissolved nitrate

D. dissolved hydrogen

Answer: B



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11. Ozone saves the biosphere by absorbing the high energy radiation called .

A. Infra - red (IR)

B. Ultraviolet ray (UV)

C. X-ray

D. Gamma rays

Answer: B



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12. The shifting cultivation method called jhum belongs to the category of

A. industrial forestry

B. agro-forestry

C. commercial forestry

D. social forestry

Answer: B



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13. Which one of the following is not a device used to control a particulate matter ?

A. Arresters

B. Scrubbers

C. Filters

D. Incinerator

Answer:



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14. Which Act was formulated in the year 1986?

A. The Insecticide Act

B. The Water (Prevention and Control of
Pollution) Act

C. The Air (Prevention and Control of
Pollution)Act

D. The Environment (Protection) Act

Answer:



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15. Which of the following strategy is not a correct approach to reduce global warming ?

A. Reducing the green house gas emission

by limiting the use of fossil fuels.

B. Increase the vegetation cover

particularly the forest photosynthetic

utilization of CO_2 .

C. Minimizing the use of nitrogen fertilizers

in agriculture for reducing N_2O emission.

D. Developing substitutes for

chlorofluorocarbons

Answer: D



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16. Which of the following group of gases cause photochemical smog ?

A. O_3 , PAN and CO

B. HC, NO and PAN

C. O_2 PAN and NO_3

D. O_3 PAN and NO_3

Answer:



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17. Blue - baby syndrome is caused by .

A. cadmium pollution

B. mercury poisoning

C. chronic expose to arsenic

D. excess nitrate in drinking water

Answer: D



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18. Which of the following is not properly matched ?

A. Formaldehyde - Carcinogenic

B. Sulphur dioxide - Respiratory problems

C. Nitrogen oxide - Brown air

D. Mean annual temperature of earth

$25^{\circ}C$

Answer:



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19. Gaseous pollutants can be controlled by

A. arrestors

B. electrostatic precipitators

C. pyrolysis

D. adsorption

Answer:



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20. It is estimated that out of the total global warming the relative contribution of CO_2 , CH_4 , $CFCs$ and N_2O are found respectively as .

A. 60%,20%,14% and 6%

B. 6%,14%,20% and 60%

C. 20%,60%,14% and 6%

D. 20%,14%,60% and 6%

Answer: A



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21. The amount of freshwater of the earth frozen as polar or glacial ice is .

A. 0.5 %

B. 0.02 %

C. 1.97 %

D. 2.5 %

Answer: D



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22. Mercury pollution causes.

A. Black foot disease

B. Itai - itai disease

C. Blue - baby syndrome

D. Minamata disease

Answer: D



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23. The percentage of forest cover recommended by the National Forest Policy (1988) is .

A. 33% for plains and 67% for hills

B. 37% for plains and 63% for hills

C. 20% for plains and 70% for hills

D. 23% for plains and 77% for hills

Answer: A



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24. Which one of the following is not a renewable , exhaustible natural resource?

A. Water

B. Wildlife

C. Soil fertility

D. Minerals

Answer: D



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25. Which one of the following is not an air pollutant ?

A. Pollen from plants

B. Phosphates

C. Carbon monoxide

D. Hydrocarbons

Answer: B



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26. Which one of the following is a most efficient device to eliminate particulate matters from the industrial emission ?

A. Cyclonic separators

B. Trajectory separators

C. Pyrolysis

D. Electrostatic percipitator

Answer:



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27. Which of the following are true ?

(i) Benzene hexachloride 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) only

B. (i) and (ii) only

C. (i) and (iii) only

D. (ii) and (iv) only

Answer: A



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28. One green house gas contributes 14% of total global warming and another contributes 6%. These are respectively identified as

- A. N_2O and CO_2
- B. CFCs and N_2O
- C. Methane and CFCs
- D. CFCs and CO_2

Answer: B



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29. Increase in concentration of toxicant at successive trophic levels is called :

- A. Eutrophication
- B. Accelerated eutrophication
- C. Biomagnification
- D. Cultural eutrophication

Answer: C



30. The thickness of ozone is a column of air from the ground to the the top of the atmosphere is measured in terms of .

- A. Decibel units
- B. Pascal units
- C. Sved berg units
- D. Dobson units

Answer: D



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Cbse Corner

1. What would be the impact on the environment around a thermal power plant if its electrostatic precipitator is not functioning? Give a reason.



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2. The figure given below shows relative contributions of various greenhouse gases to the total global warming .

(i) Name the gases (a) and (b).

(ii) Explain how increase in greenhous gases in earth's atmosphere leads to melting of ice caps .



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3. Microbes play a dual role when used for sewage treatment as they not only help to retrieve usable water but also generate fuel.

Write how this happens?



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4. 

The above diagram shows a simplified biogeochemical cycle.

i. Name the compound whose cycle is depicted

- ii. In what way do vehicles add this compound to the atmosphere ?
- iii. What adverse effect does its excess have on the environment ?
- iv. Cite an event which depicts this effect in the modern times .
- v. suggest two ways of reducing this effect.



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5. Create an aquatic food chain in a water body into which effluents flow from a pesticide factory. Diagrammatically represent biomagnification in this food chain.



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6. What is greenhouse effect ? Discuss the effect of increased level (between 540 and 970 ppm) of carbon dioxide gas on the growth of C_3 plants .





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7. It has been recorded that the temperature of the earth's atmosphere has increased by $0.6^{\circ}C$.

- a. What has caused this increase ?
- b. Explain its consequences.



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8. Study the graph given below and answer the questions that follow.



i. what is the relationship between dissolved oxygen and biochemical oxygen demand (BOD) ?

ii. Mention their effect on aquatic life in the river .



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Continuous Evaluation Project

1. Evolve a strategy for conserving water in your area.



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2. Prepare a report on source of pollution of a water body in your locality and suggest some control measures.



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