

## **CHEMISTRY**

# BOOKS - UNIVERSAL BOOK DEPOT 1960 CHEMISTRY (HINGLISH)

## **ENVIRONMENTAL CHEMISTRY**

**Ordinary Thinking Air Polution** 

**1.** Major aerosol pollutant present in jet plane emission is:

- A. Sulphur dioxide
- B. Fluorocarbon
- C. Carbon tetrachloride
- D. Carbon monoxide

## **Answer: B**



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**2.** One of them contributes maximum to air pollution

A. India	
B. USA	
C. Russia	
D. Britain	
Answer: B	



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3. Green house effect is caused by

A. Green plants

- B. Infra red rays
- C. UV rays
- D. X rays

#### **Answer: B**



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**4.** Green chemistry means such reactions which

A. Produce colour during reactions

- B. Study the reaction in plants
- C. Are related to the depletion of ozone layer
- D. Reduce the use and production of hazardous chemicals

#### Answer: D



- **5.** Which one of the following statements regarding photochemical smog is not correct?
  - A. Carbon monoxide does not play any role in photochemical smog formation
  - B. Photochemical smog is an oxidizing agent in character
  - C. Photochemical smog is formed through photochemical reaction involving solar energy

D. Photochemical smog does not cause irritation in eyes and throat

**Answer: D** 



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**6.** Which of the following is not a common component of photochemical smog?

A. Acrolein

B. Chlorofluorocarbons

C. Ozone

D. Peroxyacetyl nitrate

#### **Answer: C**



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

A. Reducing the greenhouse 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  $\mbox{in agriculture for reducing } N_2O$   $\mbox{emission}$
- D. Increasing the use of air conditioners,
  refrigeration and production of plastic
  foams and propellants in aerosol spray
  cans

#### **Answer: D**



- **8.** What are the chief pollutants of the atmosphere which are most likely to deplete the ozone layer?
  - A. Carbon dioxide
  - B. Nitrogen oxide and fluorocarbons
  - C. Sulphur dioxide
  - D. Carbon monoxide

#### **Answer: B**



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**9.** The chemical entities present in thermosphere of the atmosphere are

A. 
$$O_2^+, O^+, NO^+$$

B.  $O_3$ 

C.  $N_2, O_2, CO_2, H_2O$ 

D.  $O_3,O_2^+,O_2^-$ 

#### **Answer: D**



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## 10. Metal generally present in polluted air is

A. Cadmium

B. Lead

C. Mercury

D. Zinc

**Answer: B** 

**11.** Carbon monoxide (CO) is harmful to man because

A. It forms carbonic acid

B. It generates excess  ${\it CO}_2$ 

C. It is carcinogenic

D. It competes with  $\mathcal{O}_2$  for haemoglobin

**Answer: D** 



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**12.** Identify the wrong statement in the following:

A. Greenhouse effect is responsible for global warming

B. Ozone layer does not permit infrared radiation from the sun to reach on the

- C. Acid rain is mostly because of oxides of nitrogen and sulphur
- D. Chlorofluorocarbons are responsible for ozone layer depletion

**Answer: B** 



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**13.**  $U^{238}$  emits

A. Gamma-rays

- B. Beta-rays
- C. Alpha-rays
- D. None of these

#### **Answer: C**



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**14.** Which of the following damages WBC, bone-marrow and lymph nodes

A.  $I^{131}$ 

B.  $Ca^{40}$ 

C. Caesium

D.  $Sr^{90}$ 

#### **Answer: A**



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**15.** Permissible noise levels in a residential area at night time is

A. 35 db

- B. 40 db
- C. 50 db
- D. 45 db

#### **Answer: C**



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**16.** Global climate is threatened by increase in concentration of

A. Oxygen

- B. Water vapours
- C. Nitrogen
- D. Greenhouse gases

#### **Answer: D**



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**17.** Which of the following statement is incorrect

A. Nitrogen and Mg can pollute water

B. All pollutants

C. Carbon monoxide is the major environment pollutant

D. Lichens are affected by sulphur dioxide

### **Answer: B**



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**18.** Which of the following is a secondary pollutant?

- A.  $NO_2$
- B. *CO*
- $\mathsf{C}.\,O_3$
- D.  $SO_2$

#### **Answer: C**



- 19. When solid particles of the size less than
- 1.0 pm are suspended in air, it is called

- A. Dust
- B. Smoke
- C. Fume
- D. Fly ash

#### **Answer: C**



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**20.** Which of the following group of gases cause photochemical smog?

- A.  ${\cal O}_2$  , PAN and  ${\cal N}{\cal O}_2$
- B.  $O_2$ , PAN and  $NO_3$
- $\mathsf{C}.\,O_3$  , PAN and  $\mathsf{CO}$
- D.  $O_3$  , PAN and  $NO_2$

#### **Answer: D**



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21. Domestic waste is

A. Non-biodegradable pollutants

- B. Biodegradable pollutants
- C. Hydrocarbons
- D. None of the above

#### **Answer: B**



- **22.** Some effect of sulphur dioxide and its transformation products on plant include:
  - A. Chlorophyll destruction

- B. Golgi body destruction
- C. Plasmolysis
- D. None of the above

#### **Answer: A**



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**23.** The pollutant released by jet aerosplanes in the atmosphere as fluorocarbons are called

A. Loess

- B. Photochemical oxidants
- C. Aerosols
- D. Smog

#### **Answer: C**



- 24. Radioactive strontium as result of:
  - A.  $Sr^{85}$
  - B.  $Sr^{90}$

C.  $Sr^{80}$ 

D.  $Sr^{95}$ 

## **Answer: B**



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## 25. Lead (P) causes

A. Radioactive pollution

B. Air pollution

C. Soil pollution

D. All of the above

**Answer: B** 



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**26.** Pollution in big cities can be controlled to a large extent by

A. By proper sewage and proper exit of chemicals from factories

B. By wide roads and factories away from the city

C. By cleaning city and scanty use of pesticides

D. All of the above

#### Answer: D



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27. The stratospheric ozone depletion leads to

- A. Forest fires
- B. Increase in the incidence of skin cancers
- C. Global warming
- D. All of the above

#### **Answer: D**



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28. HeLa cells used in cell biology are:

- A. Cancerous cells grown in cancer research laboratory
- B. Cervical cancer cell derivatives
- C. Both (a) and (b)
- D. None of these

**Answer: C** 



**29.** Which of the following is normally not an atmospheric classified pollutant?

- A. Carbon monoxide
- B. Carbon dioxide
- C. Sulphur dioxide
- D. Hydrocarbons

**Answer: B** 



**30.** Montreal protocol which calls for appropriate action to protect the ozone layer from human activities was passed in the year:

- A. 1988
- B. 1986
- C. 1985
- D. 1987

#### **Answer: D**



**31.** Concentration of green houses gases is increasing due to

A. Use of refrigerator

B. Increased combustion of oils and coal

C. Deforestation

D. All of the above

**Answer: D** 



**32.** Smog is common pollutant in places having:

- A. Excessive  $SO_2$  in the air
- B. Low temperature
- C. High temperature
- D. Excessive ammonia in the air

**Answer: B** 



## 33. Ozone hole is maximum over

- A. Europe
- B. Antarctica
- C. India
- D. Africa

**Answer: B** 



**34.** It is said that the Taj Mahal may be destroyed due to:

A. Flood in Yamuna river

B. Decomposition of marble as a result of high temperature

C. Air pollutants released from oil refinery of Mathura

D. All the above

**Answer: C** 



35. Which of the following serves as indicator of atmospheric pollution?

A. Ferns

**B.** Liverworts

C. Hornworts

D. Epiphytic lichens

# **Answer: D**



# **36.** Which is the most $SO_2$ polluted city

A. Bombay

B. Calcutta

C. Delhi

D. Madras

# **Answer: B**



**37.** Green house effect is due to the presence of

- A. Moisture layer in the atmosphere
- B. Infrared light reaching the earth
- C. Ozone layer in the atmosphere
- D.  $CO_2$  layer in the atmosphere

# **Answer: D**



**38.** In cities like Mumbai and Kolkata, the major air pollutants are:

- A. Carbon monoxide and oxides of sulphur
- B. Ozone
- C. Hydrocarbons and hot air
- D. Pollens and marsh gas

**Answer: A** 



<b>39.</b> The major pollutio	n causing agent is:
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- A. Man
- B. Hydrocarbon gases
- C. Animals
- D. None of the above

**Answer: A** 



**40.** Checking of radiating heat by atmospheric dust, water vapour, ozone,  $CO_2$  etc., is known as:

- A. Radioactivity
- B. Ozone effect
- C. Solar reaction
- D. Green house effect

#### **Answer: D**



# 41. Pollution can be controlled by

- A. Sewage treatment
- B. Manufacturing electrically operated vehicles
- C. By checking atomic blasts
- D. All of the above

### **Answer: D**



42.70% component of acid rain is:

A.  $HNO_3$ 

 $\mathsf{B.}\,H_2SO_4$ 

C. HCl

D.  $CO_2$ 

# **Answer: B**



**43.** The most harmful air pollutant produced by automobiles is

- A.  $NO_2$
- B.  $CH_4$
- C. *CO*
- D.  $SO_2$

**Answer: C** 



44. Carbon monoxide is a pollutant because it:

A. It reacts with  $O_2$ 

B. It inhibits glycolysis

C. Combines with haemoglobin

D. Makes nervous system inactive

**Answer: C** 



**45.** Which of the following country is responsible for releasing largest amount of greenhouse gases

- A. Russia
- B. Brazil
- C. Germany
- D. America (USA)

### **Answer: D**



**46.** Which of the following is pollution related disorder?

A. Hypertension

B. Leprosis

C. fluorosis

D. Pneumoconiosis

**Answer: C** 



**47.** Checking of radiating heat by atmospheric dust, water vapour, ozone,  $CO_2$  etc., is known as:

- A. Greenhouse effect
- B. Ozone layer effect
- C. Radioactive effect
- D. Solar effect

# **Answer: A**



**48.** In the coming years, skin related disorders will be more common due to :

- A. Pollutants in air
- B. Use of detergents
- C. Water pollution
- D. Depletion of ozone layer

**Answer: D** 



**49.** In the last decades, most serious nuclear reactor accident created MIC gas tragedy in

- A. Russia (1990) and Bhopal (1996)
- B. Ucraine (1986) and Bhopal (1984)
- C. Bhopal (1994) and Russia (1990)
- D. Ucraine and USA (1984)

### **Answer: B**



**50.** Which important green house gas other than methane is being produced from the agricultural fields?

- A. Ammonia
- B. Sulphur dioxide
- C. Arsine
- D. Nitrous oxide

**Answer: D** 



**51.** The Taj Mahal is threatened due to the effect of

- A. Chlorine
- B. Sulphur dioxide
- C. Oxygen
- D. Hydrogen

# **Answer: B**



**52.** Secondary pollutant which stops Hill reaction is

- A. Aldehydes
- B. Nitric acid
- C. Peroxyacetyl nitrate (PAN)
- D. Sulphuric acid

**Answer: C** 



53.	Photochemical	smog	is	related	to	the
poll	ution of :					

A. Noise

B. Water

C. Soil

D. Air

# **Answer: D**



**54.** Which one of the following is not a device used to control a particulate matter

- A. Arresters
- **B.** Scrubbers
- C. Filters
- D. Incinerator

#### **Answer:**



55. In big cities, air pollution is due to:

A. Burning of fossil fuels

B. Sewage

C. Thermal power plant

D.  $H_2S$ 

Answer: A



**56.** Most hazardous metal pollutant of automobile exhaust is

- A. Cadmium
- B. Lead
- C. Mercury
- D. Copper

**Answer: B** 



<b>57.</b> Effects	of air	pollution	are	usually	seen	on
the						

- A. Leaves
- B. Stems
- C. Flowers
- D. Roots

# **Answer: A**



<b>58.</b>	Carbon	monoxide	is a	maior	pollutant	of
<b>5</b> 0.	Carbon	IIIOIIOXIG	- 15 6	i iiiajoi	Ponacant	. 01

- A. Soil
- B. Air
- C. Noise
- D. Water

# **Answer: B**



59. "Heat islands" are produced due to:

A. Air pollution

B. Land pollution

C. Water pollution

D. All of the above

**Answer: D** 



**60.** Oxides of sulphur and nitrogen are important pollutants of :

- A. Soil
- B. Air
- C. Water Pollution
- D. ALL OF THESE

**Answer: D** 



61. Gases referred to as greenhouse gases are

A.  $CO_2, O_2, NO_2, NH_3$ 

B. Chlorofluoro carbon, $CO_2,\,NH_3,\,N_2$ 

 $\mathsf{C.}\,CH_4,N_2,CO_2,NH_3$ 

D. Chlorofluoro carbon ,  $CO_2,\,CH_4,\,NO_2$ 

### Answer: D



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**62.** Which is a degradable pollutant?

- A. Mercury salts
- B. Aluminium foil
- C. Domestic wastes
- D. D.D.T.

# **Answer: C**



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**63.** Which of the following pollutant is released in large quantity from the exhaust emission of a petrol/diesel automobile

A. CO

B.  $CO_2$ 

 $\mathsf{C}.\,NO_2,\,SO_2$  and  $\mathsf{Pb}$ 

D. Hydrocarbons

# **Answer: A**



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**64.** CO is more toxic than  $CO_2$  because it :

A. It affects the nervous system

B. It damages lungs

C. It reduces the oxygen carrying capacity of haemoglobin

D. It forms acid with water

# **Answer: C**



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**65.** The ultimate environmental hazard to mankind is:

- A. Noise pollution
- B. Water pollution
- C. Air pollution
- D. Nuclear pollution

# Answer: D



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66. In almost all Indian metropolitan cities like

Delhi, the major atmospheric pollutant(s)

is/are

- A. Suspended particulate matter (SPM)
- B. Oxides of nitrogen
- C. Carbon dioxide and carbon monoxide
- D. Oxides of sulphur

# **Answer: A**



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**67.** The most adverse effect of radioactive pollutants

B. Hepatitis
C. Polio
D. TB
Answer: A
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<b>68.</b> The main air pollutant is :
A. $N_2$

A. Gene mutation

- B.CO
- $\mathsf{C}.\,CO_2$
- D. Sulphur

### **Answer: B**



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**69.** This pollutant causes burning sensation of throat and eyes and also vomiting:

A. Hydrogen sulphide

- B. Sulphur
- C. Hydrogen cyanid
- D. Arsenic substances

# **Answer: A**



- **70.** Chernobyl tragedy occurred in
  - A. 9th May, 1945
  - B. 26th April, 1986

- C. 6th Aug, 1947
- D. 26th May, 1966



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## **71.** Effect of pollution is on:

- A. Linkage
- B. Ecological balance
- C. Crossing over

D. Mutation

**Answer: B** 



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**72.** Green muffler is used against which type of pollution?

A. Soil

B. Water

C. Air

D. Noise

#### **Answer: D**



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# **73.** Aerosols reduce primary productivity by:

- A. Destroying leaf tissue
- B. Premature leaf fall
- C. Reducing Photosynthesis
- D. All of these

#### **Answer: C**



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- **74.** Positive pollution of soil is due to:
  - A. Excessive use of fertilizers
  - B. Addition of wastes on soil
  - C. Reduction in soil productivity
  - D. All of these

**Answer: D** 

## **75.** "Ozone Day" is observed on:

A. January 30

B. April21

 $\mathsf{C}.\,September 16$ 

D. December 25

#### **Answer: C**



**76.**  $SO_2$  pollution affects which part of the plant

- A. Chloroplast
- B. Mitochondria
- C. ER
- D. Lysosome

#### **Answer: A**



## 77. Effect of pollution is first marked on

- A. Micro-organisms
- B. Green vegetation of an area
- C. Food crop
- D. None of these

### **Answer: B**



**78.** Which one of the following is most poisonous?

- A. CO
- B.  $CO_2$
- $\mathsf{C}.\,C$
- D.  $SO_2$

#### **Answer: A**



**79.** In a coal fired power plant, electrostatic precipitators are installed to control emission of

- A.  $SO_2$
- B.  $NO_x$
- C. SPM
- D. CO

#### **Answer: C**



**80.** Which one of the following pairs is mismatched

- A. Fossil fuel burning release of  $CO_2$
- B. Nuclear power -radioactive wastes
- C. Solar energy -Greenhouse effect
- D. Biomass burning -release of  $CO_2$

#### **Answer: C**



**81.** Nitrogen oxides produced from the emission of automobiles and power plants are the source of fine air borne particles which lead to

- A. Photochemical smog
- B. Industrial smog
- C. Dry acid deposition
- D. Wet acid deposition

#### **Answer: C**



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**82.** Which of the following strategy is not useful for global warming

A. Use of fossil fuel in limit

B. Increase in forest

C. Increasing use of nitrogen fertilizers

D. Use of other options in place of CFC

**Answer: C** 



**83.** The ultraviolet radiations in the stratosphere are absorbed by:

- A. Ozone
- B. Carbon dioxide
- C. Oxygen
- D. Sulphur dioxide

**Answer: A** 



### 84. Examples of regional pollutions are:

- A. Smog
- B. Acid rain
- C. Both (a) and (b)
- D. None of these

#### **Answer: C**



**85.** Which one of the following gases can deplete ozone layer in the upper atmosphere?

- A. Ammonia
- B. Methane
- C. Carbon monoxide
- D. Sulphur dioxide

**Answer: B** 



**86.** In 1984, the Bhopal gas tragedy took place

because methyl isocyanate:

A. Reacted with ammonia

B. Reacted with water

C. Reacted with DDT

D. Reacted with CO

**Answer: B** 



- 87. The term biomagnification refers to:
  - A. Growth of organism due to food consumption
  - B. Increase in population size
  - C. Blowing up of environmental issues by man
  - D. Increase in the concentration of nondegradable pollutants as they pass through food chain

#### **Answer: D**



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# 88. Odd pollutant amongst the following is:

A.  $SO_2$ 

B. CO

 $\mathsf{C}.\,CO_2$ 

D. Acid rain

#### **Answer: D**

**89.** Which of the following is a sink for CO?

A. Micro organism present in the soil

B. Oceans

C. Plants

D. Haemoglobin

**Answer: A** 



**90.** Which oxide of nitrogen is not a common pollutant introduced into the atmosphere both due to natural and human activity?

A.  $N_2O_5$ 

B.  $NO_2$ 

 $\mathsf{C}.\,N_2O$ 

D. NO

#### **Answer: A**



# **Ordinary Thinking Water Polution**

**1.** Which of the following does not cause pollution?

A. Hydroelectric Power PLANT

**B.** Automobiles

C. Nuclear energy project

D. Thermal power project

**Answer: A** 

- 2. Most important cause of soil pollution is:
  - A. Plastics
  - B. Iron junks
  - C. Detergents
  - D. Glass junks

**Answer: A** 



#### 3. BOD is connected with the

- A. Organic matter
- **B.** Microbes
- C. Both (a) and (b)
- D. None of these

#### **Answer: C**



4. The process of "eutrophication" is due to:

A. increase in concentration of insecticide in water

B. Increase in concentration of fluoride ion in water

C. The reduction in concentration of the dissolved oxygen in water due to phosphate pollution in water

D. Attack of younger leaves of a plant by peroxyacetyl nitrate

### **Answer: C**



- **5.** Excess nitrate in drinking water can cause:
  - A. Methemoglobinemia
  - B. Kidney damage
  - C. Liver damage

D. Laxative effect

#### **Answer: A**



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**6.** Frequent occurrence of water blooms in a lake indicates

- A. Nutrient deficiency
- B. Oxygen deficiency
- C. Excessive nutrient availability

D. Absence of herbivores in the lake

#### **Answer: B**



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**7.** Excessive accumulation of organic matter in water bodies leads of :

- A. Decrease in species diversity
- B. Increase in species diversity
- C. Green house effect

D. No effect on species diversity

**Answer: A** 



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**8.** Limit of BOD prescribed by Central Pollution

Control Board for the discharge of industrial

and muncipal waste water into natural surface

water:

A. < 3.0ppm

- $\mathrm{B.}\,<30\mathrm{ppm}$
- $\mathsf{C.}\ < 100\mathsf{ppm}$
- D. < 10 ppm



- 9. B.O.D. test is made for measuring
  - A. Noise pollution
  - B. Water pollution

- C. Air pollution
- D. Soil pollution



- **10.** Which of the following causes outbreak of jaundice
  - A. Air pollution
  - B. Water pollution

- C. Thermal pollution
- D. Soil pollution



- **11.** In B.O.D. test, oxygen plays an important role to
  - A. Destroy pollution
  - B. Destroy inorganic matter

- C. Destroy waste organic matter
- D. None of these

#### **Answer: C**



- **12.** Water pollution can be stopped best by
  - A. Treating effluents to remove injurious
    - chemicals
  - B. Rearing more fishes

- C. Cultivating useful water plants
- D. Spraying with DDT

**Answer: A** 



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**13.** Brewery and sugar factory waster alters the quality of a water body by increasing

A. pH

B. Temperature

C. Turbidity

D. COD and BOD

**Answer: D** 



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**14.** Black-foot disease is caused due to groundwater contaminated with excess of

A. Mercury

B. Sulphur

C. Arsenic

D. Fluoride

**Answer: C** 



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**15.** In the treatment of waste water before discharge which treatment stage inovolve biological treatment?

A. Primary treatment

- B. Secondary treatment
- C. Tertiary treatment
- D. Reverse osmosis stage



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**16.** What will be the effect of addition of organic material on water?

A. COD remain unaffected

- B. BOD remain unaffected
- C. Increases BOD
- D. Reduces BOD

#### **Answer: C**



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**17.** 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 increase production of fish due to lot of nutrients
- C. Death of fish due to lack of oxygen
- D. Increased population of aquatic food web organisms

#### **Answer: C**



10. Millingta discase in st occurred in	occurred in	first	disease	imata	. Min	18.
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- A. Japan
- B. China
- C. Korea
- D. Russia

**Answer: A** 



**19.** Minamata disease was caused due to the consumption of

A. Sea food containing lot of cadmium

B. Fish contaminated with mercury

C. Oysters with lot of pesticide

D. Sea food contaminated with selenium

**Answer: B** 



**20.** Which one of the following is not a bioindicator of water pollution ?

- A. Sludge-worms
- B. Blood-worms
- C. Stone files
- D. Sewage fungus

#### **Answer: C**



**21.** A process that uses micro-organisms to convert harmful industrial wastes to less toxic or non-toxic compounds is

- A. Complement fixation
- B. Precipitation
- C. Bioremediation
- D. Bioconversion

#### **Answer: C**



# **22.** Which of the following plant is used for the purification of water

- A. Biggiata
- B. Chlorella
- C. Spirogyra
- D. Eichhornia

#### **Answer: D**



23. Water pollution is caused by:

A. Sewage and other wastes

B. Industrial effluents

C. Agricultural discharges

D. All of these

**Answer: B** 



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

A. SE It S It PE It DE

B. SE It PE It S It DE

C. PE It S It SE It DE

D. S It DE It PE It SE

### Answer: A

**25.** Biological oxygen demand (BOD) is a measure of

A. Industrial wastes poured into water bodies

B. Extent to which water is polluted with organic compounds

C. Amount of carbon monoxide inseparably combined with haemoglobin

D. Amount of oxygen needed by green plants during night

**Answer: B** 



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**26.** Which of the following metal is a water pollutant and causes sterility in human being

A. As

B. Mn

- C. Mg
- D. Hg

#### **Answer: D**



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**27.** In 2002 ,CFC concentration of atmosphere was

- A. 326 ppb
- B. 1750 ppb

- C. 261 ppm
- D. 368 ppm

#### **Answer: C**



- 28. Eutrophication can be observed in
  - A. Saline soil
  - B. Desert
  - C. Lake

D. Agricultural fields

#### **Answer: C**



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**29.** Which of the following does not occur when the sewage is discharged into water

- A. Increase in  $O_2$
- B. Cyanophycean blooms occur
- C. Depletion of layers

D. Eutrophication

#### **Answer: A**



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**30.** Which of the following is not used for disinfection of drinking water?

- A. Chlorine
- B. Ozone
- C. Chloramine

D. Phenyl

#### **Answer: D**



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## 31. The high amount of E, coli in water is the

- A. Hardness of water
- B. Industrial pollution
- C. Sewage pollution
- D. Presence of chlorine in water

#### **Answer: C**



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#### 32. Bio-indicators are used for

- A. Oxygen demand
- B. Air pollution
- C. Mineral present
- D. All of these

**Answer: D** 



**33.** Which of the following are water pollutants?

A. Smoke

B. Industrial waste

C. Detergent

D. Ammonia

**Answer: B** 



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**34.** Which of the following causes water pollution?

A. 2.4-D and pesticides

B. Smoke

C. Automobile exhaust

D. Aeroplanes

**Answer: A** 



**35.** Which of the following is the use of lichens in case of pollution ?

A. hey treat the polluted water

B. They act as bioindicators of pollution

C. They promote pollution

D. Lichens are not related with pollution

**Answer: B** 



**36.** Measurement of rate of oxygen utilisation by a unit volume of water over a period of time is to measure.:

- A. Biogas generation
- B. Biochemical oxygen demand
- C. Biosynthetic pathways
- D. Fermentation

#### **Answer: B**



**37.** Thermal pollution of water bodies is due to discharge of:

A. heat (hot water) from power plants

B. chemicals from industries

C. waste from mining

D. agricultural run off

#### **Answer: A**



38. Fishes die by sewage because

A. Of its bad smell

B. It replaces food material of fishes

C. It increases oxygen competition among

fishes

D.  $CO_2$  is mixed in large amount in water

#### **Answer: C**



#### 39. The river 'Sone' receives wastes from

- A. Refinery
- **B.** Distillery
- C. Textile mill
- D. Paper mill

#### **Answer: D**



**40.** Sewage water can be purified for recycling with action of :

A. Aquatic plants

B. Penicillin

C. Micro-organisms

D. Fishes

**Answer: C** 



**41.** One of the following is the chief source of water and soil pollution

A. Agro industry

B. Mining

C. Thermal power stations

D. All of these

**Answer: D** 



**42.** When huge amount of sewage is dumped into a river the BOD will:

- A. Increase
- B. Remain unchanged
- C. Slightly decrease
- D. Decrease

**Answer: A** 



- **43.** Phosphate pollution is caused by
  - A. Phosphate rock only
  - B. Agricultural fertilizers only
  - C. Sewage and phosphate rock
  - D. Sewage and agricultural fertilizers

Answer: D



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44. Water pollution

- A. Increases oxygenation
- B. Decreases turbidity
- C. Increases turbidity and deoxygenation
- D. Increases photosynthesis

#### **Answer: C**



- **45.** In a polluted lake, the index of pollution is:
  - A. Daphnia

- B. DO and Artemisia
- C. Presence of frogs
- D. Diatoms larvae

#### **Answer: A**



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**46.** A dental disease characterised by motting of teeth is due to presence of a certain chemical element in drinking water. Which is that element?

A.	Boron

B. Chlorine

C. Fluorine

D. Mercury

#### **Answer: C**



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**47.** Foul smell in the water of tanks, ponds etc.

is due to

- A. Anaerobiosis
- B. Acrobiosis
- C. Biological magnification
- D. Psammophytes

#### **Answer: A**



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**48.** Which one of the following statements is correct

- A. Extensive use of chemical fertilizers may lead to eutrophication of nearby water bodies
- B. Both Azotobacter and Rhizobium fix atmospheric nitrogen in root nodules of plants
- C. Cyanobacteria such as Anabaena and

  Nostoc are important mobilizers of

  phosphates and potassium for plant

  nutrition in soil

D. At present it is not possible to grow maize without chemical fertilizers

**Answer: C** 



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**49.** BOD stands for

A. Biological organism death

B. Biochemical organic matter decay

C. Biotic oxidation demand

D. Biochemical oxygen demand

#### **Answer: D**



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# **50.** Spraying of DDT produces pollution of

- A. Air only
- B. Air and soil only
- C. Air soil and water
- D. Air and water only

#### **Answer: C**



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**51.** Biological treatment of water pollution is done with the help of

- A. Phytoplankton
- **B. Lichens**
- C. Fungi
- D. None of the above

#### **Answer: A**



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# **Critical Thinking Objective Question**

**1.** Which one of the following statement is not true?

A. Oxides of sulphur, nitrogen and carbon are the most widespread air pollutant

B. pH of drinking water should be between 5.5-9.5

C. Concentration of DO below 6 ppm is good for the growth of fish

D. Clean water would have a BOD value of less than 5 ppm

**Answer: C** 



- 2. What is DDT among the following
  - A. Greenhouse gas
  - B. A fertilizer
  - C. Biodegradable pollutant
  - D. Non-biodegradable pollutant

#### **Answer: D**



**3.** The concentration of fluoride, lead, nitrate and iron in a water sample from an underground lake was found to be 1000 ppb,40 ppb,100 ppm and 0.2 ppm, respectively. This water is unsuitable for drinking due to high concentration of

A. Lead

B. Nitrate

C. Iron

D. Fluoride

#### **Answer: B**



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**4.** A water sample has ppm level concentration of following anions

$$F^{\,-}=10, SO_4^{2\,-}=100, NO_3^{\,-}=50$$

the anion/anions that make/makes the water sample unsuitable for drinking is/are

A. Both  $SO_4^{2-}$  and  $NO_3^{-}$ 

B. Only  $F^{\,-}$ 

C. Only  $SO_4^{2-}$ 

D. Only  $NO_3^-$ 

## **Answer: B**



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**5.** Photochemical smog formed in congested metropolitan cities mainly consists of :

A. Hydrocarbons,  $SO_2$  and  $CO_2$ 

B. Smoke , peroxyacetyl nitrate and  $SO_2$ 

C. Ozone , peroxyacetyl nitrate and  $NO_{x}$ 

D. Hydrocarbons , ozone and  $NO_3$ 

#### **Answer: D**



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**6.** Under column I a list of gases that are known to have a "greenhouse effect" is given.

Related them to their main source selecting

# from the list given under the column II:

14077	Column I		Column II
A	Nitrous oxide	1	Secondary pollutant from car exhausts
В	Chlorofluorocarbons (CFCs)	2	Combustion of fossil fuels, wood, etc.
C	Methane	3	Denitrification
D	Ozone (O <sub>3</sub> )	4	Refrigerators, aerosol, sprays
E	Carbon dioxide	5	Cattle, rice fields, toilets

- A. A-3,B-4,C-5,D-1,E-2
- B. A-5,B-1,C-3,D-4,E-2
- C. A-4,B-5,C-1,D-2,E-3
- D. A-1,B-3,C-4,D-5,E-2

#### **Answer: A**



**7.** In Minamata Bay, Japan which of the following animals remained free from "Minamata disease"?

A. Dogs

B. Rabbits

C. Cats

D. Pigs

**Answer: B** 

**8.** Recent reports of acid rain in some industrial cities are due to the effect of atmospheric pollution by:

A. Excessive release of  $CO_2$  by burning of fuels like wood and charcoal, cutting of forests and increased animal population

B. Excessive release of  $NO_2$  and  $SO_2$  in atmosphere by burning of fossil fuel

- C. Excessive release of  $NH_3$  by industrial plants and coal gas
- D. Excessive release of CO in atmosphere by incomplete combustion of coke, charcoal and other carbonaceous fuel in paucity of oxygen

### Answer: B



**9.** Air pollution causing plotochemical oxidants production include

A. Oxygen, chlorine, fuming nitric acid

B. Nitrous oxide, nitric acid fumes, nitric oxide

C. Ozone, peroxyacetyl nitrate, aldehydes

D. Carbon monoxide, sulphur dioxide

**Answer: C** 



**10.** Exposure of an organism to UV system cause

A. Photodynamic action

B. Formation of thymidine

C. Splitting of H-bonds of DNA

D. Splitting of phosphodiester bonds

**Answer: C** 



11. Which of the following pollutants affects more to organisms of the higher trophic level of a food chain due to biological amplification?

A. Sewage and plant fertilizers

B. Detergents

C. Heavy metals mercury salts and non-

biodegradable phenolic chemicals

D. Poisonous cyanide

# Answer: C

**12.** The presence of  $O_3$  in the atmosphere of Earth:

A. Hinders higher rate of photosynthesis

B. Helps in checking the penetration of ultraviolet rays to earth

C. Has been responsible for increasing the average global temperature in recent years

D. Is advantageous since it supplies  ${\cal O}_2$  for people travelling in jets

**Answer: B** 



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**13.** The process in which nutrient enriched water bodies support a dense plant population, which kills animal life by depriving it of oxygen and results in subsequent loss of biodiversity is known as:

- A. Species promotion
- B. Biological magnification
- C. Eutrophication
- D. None of the above

#### **Answer: C**



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**14.** The component of a living cell affected by the pollutant sulphur dioxide is:

- A. Cell wall
- B. All cell membrane system
- C. Plasmodesmata
- D. Nucleus

#### **Answer: B**



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**15.** Minimata disease is pollution related disease. It results from

- A. Accumulation of arsenic into atmosphere
- B. Oil spills into sea
- C. Release of industrial waste mercury into fishing water
- D. Release human organic waste into drinking water

### **Answer: C**



- **16.** How does carbon monoxide emitted by automobiles prevents transport of oxygen in the body tissues ?
  - A. By changing oxygen into carbon dioxide
  - B. By destroying the haemoglobin
  - C. By forming a stable compound with haemoglobin
  - D. By obstructing the reaction of oxygen with haemoglobin

## **Answer: C**

