

1. Match the following

- | | |
|---------------------------------|---------|
| P. The Water act | 1. 2002 |
| Q. The Air act | 2. 1986 |
| R. The Environmental act | 3. 1974 |
| S. The Biological diversity act | 4. 1981 |
- a. P-1, Q-4, R-3, S-2 b. P-3, Q-4, R-2, S-1
- c. P-3, Q-2, R-1, S-4 d. P-2, Q-4, R-3, S-1

2. What is the correct sequence of threatened species in reverse order?

- a. Vulnerable----Rare----Endangered-----
Extinct b. Extinct----Endangered----- Rare---- Vulnerable
- c. Extinct----- Vulnerable----Rare----
Endangered d. Vulnerable----Rare---- Extinct -----Endangered

3. Assertion A: Noise gets attenuated more in dry atmosphere.

Reason R: Moist air is less dense than dry air.

- a. A is true but R is false b. Both A and R are true but R is not the correct explanation of A
- c. A is false but R is true d. Both A and R are true and R is the correct explanation of A

4. Match the contaminants with the disease.

- | | |
|------------|--------------|
| P. Arsenic | 1. Itai itai |
| Q. Cadmium | 2. Silicious |

R. Coal

3. Methamoglobinemia

S. Nitrate

4. Black foot

a. P-2, Q-1, R-4, S-3

b. P-1, Q-2, R-3, S-4

c. P-4, Q-3, R-2, S-1

d. P-4, Q-1, R-2, S-3

5. For satisfactory working of a sludge digestion unit, the pH range of digested sludge should be maintained as

a. 4.5 to 6.0

b. 6.5 to 8.0

c. 8.5 to 10.0

d. 7.5 to 9.0

6. Air quality index in India is launched in

a. 2012

b. 2013

c. 2014

d. 2015

7. Match the following and identify the correct answer.

P. PO_4^-

1. Global warming

Q. N_2O

2. Eutrophication

R. MIC

3. Bhopal gas tragedy

S. BOD

4. Water pollution

a. P-3, Q-1, R-2, S-4

b. P-1, Q-2, R-3, S-4

c. P-4, Q-3, R-2, S-1

d. P-2, Q-1, R-3, S-4

8. Which of the following is used to determine ambient concentration of SPM?

- a. Sacchi disk
- b. Cascade impactor
- c. Kjeldahl's flask
- d. Folin-Wu method

9. Which of the following is an Ex-situ method of biodiversity conservation

- a. Seed storage
- b. Tissue culture
- c. DNA bank
- d. All the above

10. Match the following and choose the correct answer.

- | | |
|-----------------------------|--------------------------------------|
| P. 5 th June | 1. National pollution prevention day |
| Q. 2 nd December | 2. World environment day |
| R. 22 nd May | 3. World forest day |
| S. 21 st March | 4. Bio-diversity day |
- a. P-2, Q-1, R-4, S-3
 - b. P-3, Q-2, R-4, S-1
 - c. P-4, Q-3, R-2, S-1
 - d. P-1, Q-4, R-3, S-2

11. High concentration of nitrite in water bodies can harm fishes by causing

- a. Blue baby syndrome
- b. Gas bubble disease
- c. Methemoglobinemia
- d. Brown blood disease

12. In lime soda process

a. Only carbonate hardness is removed

b. Only noncarbonated hardness is removed

c. Lime reduces the carbonate hardness and soda ash removes the noncarbonated hardness

d. Lime reduces the non-carbonate hardness and soda ash removes the carbonate hardness

13. Split treatment is used to soften water with high concentration of

a. Sulphate

b. Magnesium

c. Chloride

d. Carbonate

14. When the terminal electron acceptor is the nitrite ion, the process is called

a. Anaerobic

b. Oxic

c. Anoxic

d. Aerobic

15. Which among the following statement is incorrect?

a. Nilgiri biosphere reserve is the 1st biosphere reserve in India

b. All land with tree cover of canopy density of between 40-80% is known as open forest

c. Western ghats and Eastern Himalayas are two hotspots in India

d. The Rio de Janeiro Earth summit is to prevent ozone depletion at stratosphere

16. Particulate matter (<1 μm) size suspended in air and transported by wind current are called

a. Mist

b. Smoke

c. Aerosol

d. Fumes

17. The main pollutant in wastewater discharge from a petroleum refinery is removed by

a. Trickling Filter

b. Aerated Lagoon

- c. Bio-pond
d. Gravity separating with oil skim device

18. A standard test for determination of hardness of water is

- a. EDTA test
b. Total count test
c. NTU test
d. Presumptive

19. Air binding phenomena in rapid sand filters occur due to

- a. Excessive negative head
b. Mud ball formation
c. Higher turbidity in the effluent
d. Low temperature

20. The equation for Kuichling's formula is given by

- a. $Q = 3000 \sqrt{P}$
b. $Q = 3182 \sqrt{P}$
c. $Q = 3180 \sqrt{P}$
d. $Q = 3181 \sqrt{P}$

21. The 'scoping' during EIA process under Indian EIA notification 2006 is applicable to

- a. A category of projects
b. B1 category of projects
c. Both a & b
d. None

22. Which of the following is not a type of wastewater?

- a. Sullage
b. Sewage
c. Grey Water
d. Black Water

23. What happens, when food availability in the system is too low compared to the requirement of microbes

a. Lag Phase

b. Log Phase

c. Stationary phase

d. Endogenous phase

24. Which of these is not caused by atmospheric pollution?

a. Asthma

b. Nice sunsets

c. Hayfever

d. None of these

25. Carbon dioxide in the oceans can be used by?

a. Phytoplankton

b. Zooplankton

c. Fish

d. Deep sea divers

26. The balance of carbon dioxide and oxygen has been upset by:

a. Excessive burning of fossil fuels

b. Large scale deforestation

c. Burning fossil fuels and deforestation

d. Increasing human population

27. Sulphur dioxide levels can be reduced by using

a. Low sulphur fuels

b. Static electricity to attract it in factory chimneys

c. More efficient car engines

d. Catalytic converters

28. Which acid is not present in acid rain

a. HNO_3

b. H_2SO_4

c. CH_3COOH

d. H_2CO_3

29. Which of the following chemicals are used as herbicides

- a. Sodium chlorate
- b. Sodium arsenate
- c. DDT
- d. Both a & b

30. If the length of settling tank is 5 m, width is 3 m; depth is 2 m of a rectangular tank with discharge (Q) of $1.0 \text{ m}^3 / \text{second}$; the settling velocity will be:

- a. 0.033 m/sec
- b. 0.133 m/sec
- c. 0.067 m/sec
- d. 0.253m/sec

31. Presence of excess fluorine in water causes

- a. Dental activity
- b. Tooth decay
- c. Respiratory disease
- d. Fluorosis

32. Ozone level generally found to be depleted in India in the month of

- a. July
- b. May
- c. April
- d. December

33. Subsidence inversion can be related to a

- a. Cyclone
- b. Anticyclone
- c. Radiation
- d. Tornado

34. Generally the detention period for grit chambers is kept as.

- a. 1 min
- b. 5 min

c. 2-4 h

d. 12 h

35. The suitable system of sanitation for area of distributed rainfall

throughout the year with less intensity is

a. Separate system

b. Combined system

c. Partially separate system

d. Partially combined system

36. The minimum dissolved oxygen which should always be present in water in order to save the aquatic life is

a. 2 ppm

b. 4 ppm

c. 6 ppm

d. 8 ppm

37. The ozone layer thickness is measured in

a. Decibels (dB)

b. Dobson units (DU)

c. Becquerel (Bq)

d. None of these

38. If water having a total hardness of 375 mg/l as CaCO_3 . The Carbonate Hardness is 200 mg/l as CaCO_3 . While the non-carbonate hardness is 175 mg/l. as CaCO_3 . Its alkalinity concentration will be

a. 200 mg/l as CaCO_3

b. 375 mg/l as CaCO_3

c. 275 mg/l as CaCO_3

d. 300 mg/l as CaCO_3

39. Deterioration of Taj Mahal Marble is mainly due to

a. Oxides of nitrogen

b. Oxides of sulfur

c. Oxides of Carbon

d. Suspended particulate matter

40. Which part of the atmosphere contains ozone layers?

a. Stratosphere

b. Troposphere

c. Thermosphere

d. Ionosphere

41. With the increase of temperature, dissolved oxygen of the water will

a. Increase

b. Decrease

c. No effect

d. Cannot be predicted

42. Operating principle of cyclone separator is based on the action of _____ dust particles.

a. Centrifugal forces on

b. Gravitational forces on

c. Centripetal forces on

d. Electrostatic forces on

43. The Iron and manganese present in the water cannot be removed by

a. Chlorination

b. Ion exchange process

c. Oxidation followed by settling and filtration

d. Lime soda process

44. Tolerable limit of nitrogen oxides in air is

a. 25.0 PPM

b. 1.0 PPM

c. 0.1 PPM

d. 5.0 PPM

45. COD of raw municipal sewage may fall in the range of

a. 100-400 PPM

b. 1000-1500 PPM

c. 0-10 PPM

d. 1-5 PPM

46. The type of sewer which is suitable for both combined and separate system is

a. Circular

b. Egg shaped

c. Elliptical

d. Semi elliptical

47. The major gases produced from sanitary landfill are due to

a. Aerobic decomposition of biodegradable organic matter

b. Anaerobic decomposition of biodegradable organic matter

c. Anoxic decomposition of biodegradable organic matter

d. Oxidic decomposition of biodegradable organic matter

48. Ground water has to be treated with impurities like hardness, microorganisms and low dissolved Oxygen concentration along with different gases. What will be the proper sequence of treatment

a. Sedimentation; Filtration; Coagulation
Flocculation; Disinfection

b. Aeration; Sedimentation; lime soda process;
Filtration

c. Screen; Filtration; Softening; Disinfection

d. Aeration; Sedimentation; Softening; Disinfection

49. In a well-planned city, layout of distribution pipes system generally adapted is

a. Ring system

b. Grid Iron system

c. Radial System

d. All of these

50. . Screening stage in EIA means

- a. Determining whether or not an EIA study would be required for a project
- b. Determining the size and nature of the project
- c. Preparing a list of activities to be performed during EIA
- d. Screening the location of the project

51. What is the effect of excess SO_4^- in water?

- a. Carcinogenic
- b. Hemorrhagic
- c. Laxative
- d. None of these

52. What is the source of dissolved oxygen in water?

- a. Atmospheric oxygen
- b. Photosynthetic oxygen
- c. Both
- d. None

53. Pre-chlorination is done for

- a. Algal control in wastewater
- b. Fungal control in wastewater
- c. Bacterial control in wastewater
- d. Algal control and arresting biological growth

54. 30 mL of wastewater with 0 ppm DO is mixed with 270 mL of dilution water having DO of 10 ppm. What will be the BOD after 7 days of incubation in standard condition?

- a. 5 ppm
- b. 3 ppm
- c. 9 ppm
- d. 2.7 ppm

55. Match the laboratory techniques with indicators.

- P. Alkalinity
- 1. EBT

Q. DO

2. Starch

R. Hardness

3. MO and PP

S. Chlorides

4. Potassium chromate

a. P-3, Q-1, R-2, S-4

b. P-2, Q-1, R-3, S-4

c. P-4, Q-3, R-2, S-1

d. P-3, Q-2, R-1, S-4

56. Match the following water quality with method of determination.

P. Hardness

1. Winkler method

Q. Chlorine

2. EDTA method

R. DO

3. Orthotolidine method

S. Chloride

4. Mohr method

a. P-3, Q-1, R-2, S-4

b. P-1, Q-2, R-3, S-4

c. P-2, Q-3, R-1, S-4

d. P-3, Q-1, R-4, S-2

57. Unit of weir loading is

a. Lit/m²/d

b. Lit/m/d

c. Lit/m²/S²

d. Lit/ d

58. Sedimentation is concerned with the settling of non flocculating, discrete particles from the water

a. Type I

b. Type II

c. Type III

d. Type IV

59. In rapid sand filters the permissible head loss is

a. Between 2.5 and 3.5 m

b. Exactly 2.5 m

c. Less than 5 m

d. All of above

60. For a rectangular tank L x B x H is 5 x 4 x 3 m³ and design discharge is 600 m³/d. Hence, SOR will be

a. 40 m³/m²/d

b. 20 m³/m²/d

c. 30 m³/m²/d

d. 50 m³/m²/d