

1. **While designing water supply scheme for a city, which demands/needs are not considered?**
 - A. Domestic and non-domestic needs
 - B. Fire fighting demand
 - C. Agricultural demand
 - D. Industrial demand
2. **The increase in rate of biochemical reaction can cause depletion in..... concentration**
 - A. Ozone
 - B. Dissolved oxygen
 - C. Carbon dioxide
 - D. Self purification
3. **Manholes are less common in-**
 - A. Cast Iron pipes
 - B. Steel pipes
 - C. Hume steel pipes
 - D. RCC pipes
4. **Which of the following statements is incorrect for plastic wastes?**
 - A. It is used to make compost
 - B. It lasts for a longer period of time
 - C. Toxic flames are produced when burnt
 - D. All of the above
5. **Flow through period in sedimentation tank is-**
 - A. Equal to detention period
 - B. More than detention period
 - C. Less than detention period
 - D. Detention period divided by displacement efficiency
6. **The technology which meets the sustainable development needs is often referred to as-**
 - A. Advanced technology
 - B. Appropriate technology
 - C. Sustainable technology
 - D. Adaptive technology
7. **In which of the following ways, high level radioactive waste can be managed?**
 - A. Open dumping
 - B. Composting
 - C. Incineration
 - D. Dumping in sealed containers
8. **The highest moisture content is in-**
 - A. Garbage
 - B. Rubbish
 - C. Hospital waste
 - D. Agricultural waste

9. For perennial rivers and lakes how many parameters are analysed in pre-monsoon surface water samples?
- A. 15
 - B. 11
 - C. 25
 - D. 20
10. What is the indicator of pollution in water?
- A. Amount of Oxygen
 - B. Amount of Hydrogen
 - C. BOD
 - D. Amount of Nitrogen
11. Which of the following organisms found in human waste causes water pollution?
- A. Coliform Bacteria
 - B. Viruses
 - C. Protozoa
 - D. Parasite worms
12. MRF term in solid waste management is used for-
- A. Material Recovery Facilities
 - B. Major Relief Fund
 - C. Minimum Raw Food
 - D. None of these
13. The non-clog pump which permits solid matter to pass out with the liquid sewage is-
- A. Centrifugal pump
 - B. Reciprocating pump
 - C. Pneumatic ejector
 - D. None of these
14. As per IS 10500:2012 acceptable limit of turbidity in drinking water is up to-
- A. 1
 - B. 10
 - C. 15
 - D. 2
15. Ozone hole is the-
- A. Absence of O₃ in troposphere
 - B. Absence of O₃ in stratosphere
 - C. Deficiency of O₃ in stratosphere
 - D. Deficiency of O₃ in troposphere
16. What is the full form of NTU in context with turbidity?
- A. Number of transfer unit
 - B. Neurological turbidity unit
 - C. Nephelometric turbidity unit
 - D. Network terminal unit

17. **Suction lift of a pump depends upon-**

- A. Atmospheric pressure
- B. Water temperature
- C. Velocity of water in suction pipe
- D. All of the above

18. **How aquatic weeds are used in controlling water pollution?**

- A. They are used as decorative substances
- B. They are used as biological filters
- C. They are used as chemicals
- D. They are used to upgrade waste water treatment

19. **The average quantity of water (in lpcd) required for domestic purpose according to IS code is-**

- A. 100
- B. 120
- C. 70
- D. 135

20. **Which of the following process is required for the respiration of aerobic microorganisms?**

- A. Membrane filtration
- B. Aeration
- C. Sedimentation
- D. Flocculation

21. **If the grit in grit chambers is 4.5 million litres per day. Its cleaning is done-**

- A. Manually
- B. Mechanically
- C. Hydraulically
- D. Electrically

22. **Which of the following components of municipal solid wastes can be recycled?**

- A. Metals
- B. Paper and paper products
- C. Glass
- D. All of the above

23. **The amount of heat generated from combustion of unit weight of water is defined as -----.**

- A. The heat value
- B. The calorific value
- C. The heating value
- D. The combustion value

24. **Which one of the following is not a site for in-situ method of conservation of floral?**

- A. Biosphere Reserve
- B. Botanical Garden
- C. National Park
- D. Wildlife Sanctuary

25. **Environmental degradation**

means-

- A. Overall degradation of environmental attributes
- B. Adverse changes brought in by human activities
- C. Ecological imbalance because of ecological diversity
- D. All of the above

26. **Pick up the correct statement from the following**

- A. Lime may be used to soften the hard water
- B. Excessive use of lime may kill the bacteria
- C. Excessive lime when added to water raises its pH value
- D. All of the above

27. **Which is the first zone of purification in a sand bed?**

- A. Autotrophic zone
- B. Heterotrophic zone
- C. Schmutzecke zone
- D. Electrolytic zone

28. **Which type of problem is caused in filter due to the accumulation of solids on the top of surface of filter media?**

- A. Clogging
- B. Air binding
- C. Sand incrustation
- D. Sand leakage

29. **Which of the following statements is wrong regarding permanent hardness**

- A. It is also called carbonate hardness
- B. It is due to presence of sulphates, chlorides and nitrates of calcium and magnesium
- C. It cannot be removed by boiling
- D. It requires special methods of water softening to get removed

30. **Aeration is necessary in water treatment because-**

- A. It adds oxygen to water
- B. Expulsion of CO₂, hydrogen sulphide and other volatile substances
- C. To precipitate impurities like iron and manganese
- D. All of the above

31. Rate of flow of sewage is generally assumed-

- A. More than the rate of water supply
- B. Equal to the rate of water supply
- C. Less than the rate of water supply
- D. At 150 liters per capita

32. To remove very fine suspended particles from water, the method adopted is-

- A. Screening
- B. Sedimentation
- C. Boiling
- D. Filtration

33. What are the primary goals of sustainability?

- 1 The end of Poverty and Hunger
- 2 Better standards of education and health care
- 3 To achieve gender equality
- 4 Sustainable economic growth

- A. (1), (2), (3)
- B. (1), (3), (4)
- C. (1), (3)
- D. (1), (2), (3), (4)

34. Quantity of waste water flowing through sewers in dry season is known as.....

- A. WWF
- B. DWF
- C. Storm water flow
- D. Sullage

35. Identify the correct relation between the following-

- A. Dissolved solid = Total solid + Suspended solid
- B. Dissolved solid = Total solid - Suspended solid
- C. Total solid = Dissolved solid / Suspended solid
- D. Dissolved solid = Suspended solid - Total solid

36. A safety lamp when inserted in the upper portion of a manhole causes flames. It indicates the presence of

- A. Carbon dioxide gas
- B. Hydrogen sulphide gas
- C. Methane gas
- D. Petrol vapours

37. Which of the following is not a source reduction activity?

- A. Products package reuse
- B. Reducing use by modifying practices
- C. Saving energy by using recycled materials
- D. Package or product design that reduces material or toxicity

38. Assertion (A): Discharging the effluents from the oxidation ponds just up stream of lakes or reservoirs is undesirable
Reason (R): The discharged algae get settled in the reservoirs and cause anaerobic decomposition and other water qualities

- A. Both A and R are true and R is the correct explanation of A
- B. Both A and R are true but R is not a correct explanation of A
- C. A is true but R is false
- D. A is false but R is true

39.is an operation designed to force agitation in the fluid and induce coagulation

- A. Sedimentation
- B. Flocculation
- C. Disinfection
- D. Aeration

40. Dissolved carbon dioxide can be removed from the supply main by -----

- A. Sedimentation
- B. Aeration
- C. Chlorination
- D. Coagulation

41. The local body shall submit the annual report to State Pollution Control Board as below

- A. In Form 4 on or before 30th of June every year
- B. In Form 5 on or before 31st May of every year
- C. In Form 6 on or before 30th of June every year
- D. None of the above

42. Recommended maximum water supply levels in cities provided with piped water supply where sewerage system is existing / contemplated is-

- A. 70 lpcd
- B. 90 lpcd
- C. 135 lpcd
- D. 150 lpcd

43. The chemical composition of Alum is -----.

- A. $\text{Al}_2(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$
- B. $\text{Al}_2(\text{SO}_4)_2 \cdot 18\text{H}_2\text{O}$
- C. $\text{Al}_3(\text{SO}_4)_2 \cdot 18\text{H}_2\text{O}$
- D. $\text{Al}_4(\text{SO}_4)_3 \cdot 18\text{H}_2\text{O}$

44. Environment protection has been made a fundamental duty of every citizen of India under Article-----
- A. 51-A(g)
 - B. 51
 - C. 51-A(h)
 - D. 51-A(e)
45. Standard BOD means-----
- A. BOD measure after 7 days at 27°C
 - B. BOD measure after 1 day at 25°C
 - C. BOD measure after 5 days at 20°C
 - D. None of these
46. Which of the following is not a major option for managing hazardous waste?
- A. Reducing the production of waste while increasing the amount generated
 - B. Reducing the volume and/or hazard of the waste
 - C. Long term storage or disposal
 - D. Dumping at sea
47. Settling velocity of a spherical body in a viscous fluid is given by.....
- A. Reynold's Law
 - B. Newton's Law
 - C. Stoke's Law
 - D. Charles Law
48. Meeting the needs of the present without compromising the ability of future generations to meet their own needs is given by-
- A. Brunt land
 - B. Mahatma Gandhi
 - C. Mathai
 - D. Sunderlal Bahuguna
49. The sewage treatment units in which anaerobic decomposition of organic matter is used are called-
- A. Imhoff tanks
 - B. Trickling filters
 - C. Sludge sedimentation tanks
 - D. None of these
50. Which of the following statements regarding recycling is wrong?
- A. It saves precious resources
 - B. It improves efficiency of treatment processes
 - C. It requires stable market
 - D. It increases the needs for mining virgin materials