29. 10. 2023

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Booklet Serial No. 040013

Test Booklet Series

FIELD ASSISTANT
OMR Examination - 2023

A

Time Allowed: 120 Minutes ***Maximum Marks: 120***

INSTRUCTIONS

1. IMMEDIATELY AFTER THE COMMENCEMENT OF THE EXAMINATION, YOU SHOULD CHECK THAT THIS TEST BOOKLET ***DOES NOT*** HAVE ANY UNPRINTED OR TORN OR MISSING PAGES OR ITEMS, ETC. IF SO, GET IT REPLACED BY A COMPLETE TEST BOOKLET.

2. **Please note that it is the candidate's responsibility to encode and fill in the Roll Number, Booklet Serial No. and Test Booklet Series Code A, B, C or D carefully and without any omission or discrepancy at the appropriate places in the OMR Answer /Response Sheet. Any omission/discrepancy will render the Response Sheet liable for rejection.**

3. You have to enter your Roll Number on the Test Booklet in the Box provided alongside. ***DO NOT*** **write** ***anything else*** on the Test Booklet.

4. This Test booklet contains **120** items (questions). Each item comprises of four responses (answers). You will select the response which you want to mark on the Answer Sheet/Response Sheet. In case you feel that there is more than one correct response, mark the response which you consider the appropriate. In any case, choose ***ONLY ONE*** response for each item.

5. You have to mark all your responses ***ONLY*** on the separate Answer /Response Sheet provided. *See directions in the Response Sheet.*

6. ***All*** items carry equal marks.

7. After you have completed filling in all your responses on the Response Sheet and the examination has concluded, you should hand over to the Invigilator ***only the Answer /Response Sheet.*** You are permitted to take away with you the Test Booklet and ***Candidate's Copy of the Response Sheet*** **.**

8. Sheets for rough work are appended in the Test Booklet at the end.

9. While writing Centre Code and Roll No. on the top of the Answer Sheet/Response Sheet in appropriate boxes use **"ONLY BLUE/BLACK BALL POINT PEN".**

10. **Penalty for wrong answers:**

THERE WILL BE PENALTY FOR WRONG ANSWERS MARKED BY THE CANDIDATE IN THE WRITTEN TEST (OBJECTIVE TYPE QUESTIONS PAPERS).

(i) There are four alternatives for the answer to every question. For each question for which a wrong answer has been given by the candidate, (¼) of the marks assigned to that question will be deducted as penalty.

(ii) If a candidate gives more than one answer, it will be treated as a **wrong answer** even if one of the given answers happens to be correct and there will be same penalty as above for that question.

(iii) If a question is left blank, i.e., no answer is given by the candidate, there will be **no penalty** for that question.

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(Set - A)

1. _____ is the tendency of pollutants to become concentrated in successive trophic levels.
   A) Bioremediation
   B) Biorhythm
   C) Biopiracy
   D) Biomagnification

2. _____ is an international treaty designed to protect the ozone layer by phasing out the production of numerous substances that are responsible for ozone depletion.
   A) Cartagena Protocol
   B) Vienna Protocol
   C) Montreal Protocol
   D) Kyoto Protocol

3. The atmosphere is said to be unstable when
   A) Environmental lapse rate < Adiabatic lapse rate
   B) Environmental lapse rate = Adiabatic lapse rate
   C) Environmental lapse rate > Adiabatic lapse rate
   D) Environmental lapse rate does not have any relation with Adiabatic lapse rate

4. The Kyoto Protocol is an international treaty that commits state parties to:
   A) Reduce greenhouse gas emissions
   B) Reduce acid rain
   C) Reduce photochemical smog
   D) Reduce ozone depleting substances

5. Among the following, which all articles in the Indian constitution are related to National Green Tribunal?
   a. Article 24
   b. Article 21
   c. Article 48 A
   d. Article 51-A(g)
   A) a, b, and c
   B) c and d
   C) b, c, and d
   D) a only

6. Consider the following statements
   a. CO emission is mainly due to incomplete combustion of fuel.
   b. Affects the oxygen carrying capacity of blood
   c. Can cause nausea

   Which of the following statement is /are correct
   A) a Only
   B) a, b, and c
   C) c and a Only
   D) c only

7. The chemical responsible for blue baby syndrome that is caused by restricted supply of oxygen to the brain is _____
   A) Oxides
   B) Chlorides
   C) Nitrates
   D) Fluorides

8. The chemical responsible for Minamata disease
   A) Fluorine
   B) Lead
   C) Chlorine
   D) Mercury

9. _____causes minimum water pollution among the following nutrients.
   A) Pottassium
   B) Phosphorous
   C) Organic matter
   D) Nitrogen

10. Which of the following is correct?
   A) Removal of inorganic suspended solids cannot be done using a grit chamber.
   B) Trickling filter is an anaerobic attached growth process.
   C) In a completely mixed anaerobic reactor, the SRT is the same as the HRT.
   D) Removal of organic/inorganic settleable solids can be done in a primary sedimentation tank

11. The characteristics of fresh and septic sewage, respectively are
   A) Alkaline and acidic
   B) Acidic and alkaline
   C) Both acidic
   D) Both alkaline

12. The size of colloidal solids in waste water are in the range of
   A) < 0.1 nm
   B) 1 nm - 100 nm
   C) 0.1 nm - 1 nm
   D) > 100 nm

13. If the average sewage for a city is 80×10^6 l/day and the average 5 day BOD is 300 mg/l against a standard of 60 mg/day per capita at 20 °C, then the population equivalent of the city will be.
   A) 285×10^6
   B) 380×10^6
   C) 400×10^6
   D) 225×10^6

14. Pick the Hazen-William's formula for Sewer Design

A) $V = 0.85\ C\ r^{0.63}\ S^{0.54}$

B) $V = (1/n)\ R^{(2/3)}\ S^{(1/2)}$

C) $hL = 1.18\ r\ CS^2$

D) $hL = (fLV^2)/(2gd)$

15. The self-cleansing velocity of sewers in India generally is

A) *< 0.5 m/s*

B) *1 m/s - 1.2 m/s*

C) *0.5 m/s - 1.5 m/s*

D) *3 m/s - 3.5 m/s*

16. The main gas liberated from an anaerobic sludge digester is

A) Methane

B) Ammonia

C) Carbon dioxide

D) Carbon monoxide

17. A polluted stream undergoes self-purification in four distinct zones:

a. Zone of clear water

b. Zone of Active decomposition

c. Zone of degradation

d. Zone of recovery

A) c, d, b, a

B) a, b, c, d

C) c, b, d, a

D) b, c, d, a

18. Match the following:

1. High rate trickling filter	a. Detachment of attached biofilm from the surface
2. Low rate trickling filter	b. Fly nuisance
3. Recirculation	c. BOD removal efficiency is 80%-95%
4. Sloughing	d. Depth of filter is 2 to 3 m

A) 1-d, 2-c, 3-a, 4-b

B) 1-d, 2-a, 3-b, 4-c

C) 1-c, 2-d, 3-b, 4-a

D) 1-b, 2-c, 3-d, 4-a

19. Consider the following statements;

a. In centrifugal pumps discharge is continuous and smooth.

b. Reciprocating pumps are used for smaller discharge and high heads,

c. Centrifugal pump needs smaller floor area.

d. Efficiency of reciprocating pump is less than centrifugal pump.

Which of the following statements is/are correct

A) b, c and d

B) d, c and a

C) a, b and c

D) a, b, c and d

20. Match the slow sand filter components with its standard dimensions/ values

1.	Gravel bed coarse aggregate size	a.	90 cm to 110 cm
2.	Filter media thickness	b.	3 mm to 60 mm
3.	Gravel bed thickness	c.	20 mm to 40 mm
4.	Gravel bed middle layer thickness	d.	30 cm to 75 cm

A) 1-b, 2-a, 3-d, 4-c

B) 1-c, 2-d, 3-b, 4-a

C) 1-d, 2-c, 3-a, 4-b

D) 1-b, 2-a, 3-c, 4-d

21. On analysis for the coliform group using 3 samples of 10 mL, 50 mL and 500 mL by membrane filter technique the results obtained are: 10 mL portion- 5, 6, 7, 8, 9; 50 mL portion- 30, 35, 26, 36, 38; and 500 mL portion- 300, 380, 340, 360, 320. The number of coliforms per 100 mL is

A) 35

B) 66

C) 100

D) 320

22. In facultative stabilization pond, the sewage is treated by:

A) Algae only

B) Aerobic bacteria only

C) Sedimentation

D) Combined action of aerobic and anaerobic bacteria

23. Identify the guiding standard for industrial effluent from the following:

A) IS 2490-1974

B) IS 4764 - 1973

C) IS 1380-2016

D) IS 3024(44) - 1993

24. The recirculation ratio is defined as

A) Volume of inlet air to outlet air

B) Volume of sewage to Volume of raw sewage

C) Mass of incoming sewage to mass of treated sewage

D) Volume of sewage entering inlet to volume of sewage deposited

25. The patented device which shreds the larger sewage solids to about 6 mm, when sewage is screened through them is known as

A) Comminutors

B) Grit chamber

C) Detritus tank

D) Screen

26. Consider the following statements;

a. Eutrophication is the algal bloom produced due to excess discharge of plant nutrients into water body

b. Can be added by adding copper sulphate to water.

A) (a) is true and (b) is false

B) (a) is false and (b) is true

C) Both (a) and (b) are false

D) Both (a) and (b) are true

27. Choose the correct sequence of steps adopted during the Environmental Impact Assessment (EIA) process.

A) Screening, Scoping, Data collection, Impact analysis, Public hearing, Decision making

B) Scoping, Screening, Data collection, Impact analysis, Public hearing, Decision making

C) Screening, Scoping, Impact analysis, Data collection, Public hearing, Decision making

D) Screening, Scoping, Data collection, Public hearing, Impact analysis, Decision making

28. Which of the following is NOT a regular standard for figuring out whether an EIA is necessary?

A) Project size and scale

B) Project complexity

C) Potential economic benefits

D) Location in sensitive areas

29. In EIA terminology, what does "baseline data" refer to?
A) Data on potential project alternatives
B) Data collected during the public consultation phase
C) Data on the financial costs of the project
D) Data on the current environmental conditions in the project area before the project begins

30. What does "cumulative impact" mean in the context of EIA?
A) The combined effect of all environmental factors on a project
B) The immediate impact of a project on the environment
C) The impact of a single project on multiple locations
D) The impact of a project on human health

31. The Environmental Impact Assessment Report may consist of:
a. Assessment of the Land Contamination
b. Assessment of the Sewerage and Sewage Treatment Implications
c. Assessment of the Hazard to Life
d. Assessment of the Cultural Heritage Impact
Choose the best option.
A) a and c
B) a, b, d only
C) a, b, c only
D) a, b, c and d

32. Consider the following projects and choose the best option for which the Public hearing is not required in the EIA?
i. Strengthening and widening of highways.
ii. Modernization of existing irrigation projects.
A) Only i
B) Only ii
C) Both i and ii
D) Neither i nor ii

33. Which of the following is not a material consideration when making impact predictions of environmental damage?
A) Benefit of the project for jobs and the economy
B) A period of time the impact will last for
C) Area over which the impact will occur
D) The intensity of environmental damage within the impact zone

34. IAIA stands for _____
A) International Agency of Impact Assessment
B) Indian Assembly of Impact Assessment
C) International Association of Impact Assessment
D) Indian Association of Impact Assessment

35. The Headquarters of the Indian Council of Forestry Research and Education (ICFRE) is situated in _____.
A) Roorkee
B) Dehradun
C) Thiruvananthapuram
D) New Delhi

36. What sanctions apply when the Environment Protection Act is violated?
A) Fine & Imprisonment
B) Community service
C) Verbal reprimand
D) None of these

37. The Environment Protection Act 1986 was enacted following the United Nations Conference on the Human Environment held at _____, in June, 1972.
A) Helsinki
B) Stockholm
C) Bern
D) Paris

38. National Ganga River Basin Authority (NGRBA) is responsible for _____ duties.
A) Developmental
B) Developmental and regulatory
C) Regulatory
D) Protection

39. Consider the following pairs from the Air (Prevention and Control of Pollution) Act, 1981

1. Section 21	a. Power of State Government to supersede State Board
2. Section 47	b. Power of State Government to make rules
3. Section 53	c. Restrictions on use of certain industrial plants
4. Section 54	d. Power of Central Government to make rules

Which of the pairs given above is/are correctly matched?
A) 1-c, 2-a, 3-d, 4-b
B) 1-c, 2-a, 3-b, 4-d
C) 1-a, 2-c, 3-d, 4-b
D) 1-a, 2-c, 3-b, 4-d

40. Which of the following convention governs the Hazardous waste management?
A) Basel Convention
B) Stockholm Convention
C) Geneva Convention
D) Rio Convention

41. Which of the following ministries serves as the central node for coordinating disaster management efforts for all natural disasters, with the exception of drought?
A) Ministry of Health and Family Welfare
B) Ministry of Home Affairs
C) Ministry of Agriculture
D) None of the above

42. International Tsunami Information Centre (ITIC) is located in _____.
A) Jakarta
B) Tohoku
C) Honolulu
D) Panjim

43. State Disaster Management Authority is headed by
A) Governor
B) Chief Secretary
C) Chief Minister
D) State minister of Environmental Conservation

44. Consider the following pairs:

1.	Physical Hazard	a.	Explosive
2.	Chemical Hazard	b.	No safety device
3.	Psychological Hazard	c.	Noise
4.	Mechanical Hazard	d.	Smoking.

Which of the pairs given above is/are correctly matched?
A) 1-c, 2-a, 3-d, 4-b
B) 1-a, 2-c, 3-d, 4-b
C) 1-a, 2-c, 3-b, 4-d
D) 1-c, 2-a, 3-b, 4-d

45. The purpose of Cardiopulmonary resuscitation is to _____
A) Maintain oxygenated blood circulation
B) Stabilize body temperature to avoid hypothermia
C) Free blood clots within the victims' lungs
D) All of the above

46. The non-living components of the environment, such as water, air, and minerals, are part of the:
A) Biotic environment
B) Abiotic environment
C) Ecosystem
D) Biosphere

47. Fossil fuels like coal, oil, and natural gas are examples of:
    A) Renewable resources
    B) Biotic resources
    C) Non-renewable resources
    D) Abiotic resources

48. Inhalation of fine particulate matter (PM2.5) can lead to health issues primarily affecting the:
    A) Digestive system
    B) Skeletal system
    C) Respiratory system
    D) Nervous system

49. The event that led to the creation of Earth Day on April 22nd each year was:
    A) The signing of the Paris Agreement
    B) The Exxon Valdez oil spill
    C) The first United Nations Earth Summit
    D) The Santa Barbara oil spill

50. Prolonged exposure to ultraviolet (UV) radiation from the sun can increase the risk of:
    A) Heart diseases
    B) Skin cancer
    C) Asthma
    D) Diabetes

51. Industrial pollutants like mercury and cadmium can accumulate in the food chain and pose a threat to the:
    A) Reproductive system
    B) Immune system
    C) Endocrine system
    D) Nervous system

52. The event that initiated the modern environmental movement is often associated with the publication of the book:
    A) "Silent Spring" by Rachel Carson
    B) "The Lorax" by Dr. Seuss
    C) "An Inconvenient Truth" by Al Gore
    D) "The Population Bomb" by Paul Ehrlich

53. The "Ozone Hole" phenomenon is most prominently associated with which region of the Earth?
    A) Arctic region
    B) Himalayan region
    C) Amazon rainforest
    D) Antarctic region

54. The estimation of sewage discharge is typically based on:
    A) Solar radiation
    B) Total population
    C) Wind speed
    D) Atmospheric pressure

55. The design period in wastewater treatment refers to the:
    A) Duration of sewage discharge
    B) Time taken for coagulation
    C) Time required for filtration
    D) Expected operational lifespan of the treatment facility

56. Coagulation is the process of:
    A) Filtration through sand beds
    B) Mixing chemicals to form flocs
    C) Directly discharging treated water
    D) Aerating water to improve taste

57. Filtration in water treatment involves passing water through a medium to remove:
    A) Bacteria
    B) Oxygen
    C) Dissolved minerals
    D) Particulate matter

58. Adsorption is a process used for:
    A) Separating dissolved gases from water
    B) Absorbing dissolved minerals from water
    C) Removing heavy metals and organic compounds from water
    D) Promoting biological growth in water

59. Treatment ponds and aerated lagoons are examples of:
    A) Physical treatment processes
    B) Chemical treatment processes
    C) Biological treatment processes
    D) Thermal treatment processes

60. Trickling filters are designed to:
    A) Remove dissolved minerals from water
    B) Filter out bacteria from water
    C) Provide aeration to water
    D) Promote biological growth on a filter medium

61. Rotating biological contactors (RBCs) are used to:
    A) Separate oil from water
    B) Promote the growth of algae
    C) Provide oxygen to water
    D) Support biological treatment using a rotating disc

62. A Sequencing Batch Reactor (SBR) is a type of wastewater treatment process that involves:
    A) Continuous inflow and outflow of water
    B) Batch-wise treatment with alternating phases
    C) Treatment using high-pressure jets
    D) Direct discharge of untreated sewage

63. Anaerobic digestion is a process that occurs in the absence of:
    A) Oxygen
    B) Light
    C) Carbon dioxide
    D) Nitrogen

64. Nitrification is a biological process that involves the conversion of:
    A) Nitrogen gas to ammonia
    B) Ammonia to nitrite and nitrate
    C) Nitrate to nitrite
    D) Ammonia to nitrogen gas

65. Pneumatic ejectors utilize _____ to pump sewage.
    A) Hydraulic pressure
    B) Electric motors
    C) Air pressure
    D) Centrifugal force

66. The waste generated by the tannery industry is often characterized by:
    A) Low organic content
    B) Low chemical content
    C) High organic content and toxic chemicals
    D) High inorganic content

67. Total Suspended Solids (TSS) in water represent:
    A) Dissolved minerals
    B) Organic matter
    C) Colloidal particles
    D) Particles that are retained by a filter

68. A high sludge volume index (SVI) indicates:
    A) Efficient sludge settling
    B) Poor sludge settling
    C) High oxygen content in the sludge
    D) Low nutrient content in the sludge

69. A high effluent Total Suspended Solids (TSS) level indicates:
    A) Efficient treatment
    B) Low solids content
    C) High solids content
    D) No presence of solids

70. The ratio of sludge mass (lbs or kg) to the volume of sewage treated (gal or m^3) is known as:
    A) Suspended Solids Concentration (SSC)
    B) Sludge Retention Time (SRT)
    C) Sludge Volume Index (SVI)
    D) Sludge Loading Rate (SLR)

71. The efficiency of a wastewater treatment system in removing nutrients such as nitrogen and phosphorus is crucial to prevent:
    A) Low dissolved oxygen levels
    B) High pH levels
    C) Algal blooms and eutrophication
    D) Low turbidity levels

72. The performance of a wastewater treatment system is evaluated by comparing influent and effluent concentrations of pollutants. This comparison is done using:
    A) Mass balance analysis
    B) pH adjustment
    C) Turbidity measurements
    D) Jar tests

73. Ammonia (NH3) in water can be harmful to aquatic life because it:
    A) Increases dissolved oxygen levels
    B) Acts as a natural fertilizer
    C) Lowers pH
    D) Is toxic at high concentrations

74. The presence of fecal coliform bacteria in effluent indicates:
    A) Efficient treatment
    B) A lack of organic matter
    C) Inadequate disinfection
    D) High oxygen levels

75. An Environmental Impact Statement (EIS) is a document that:
A) Presents the financial projections of a project
B) Outlines the project's marketing strategy
C) Describes the potential environmental impacts of a project and proposed mitigation measures
D) Lists the names of stakeholders involved in the project

76. Socio-economic impacts of a project relate to its effects on:
A) Water quality
B) Flora and fauna
C) Human health
D) Livelihoods, employment, and community well-being

77. Geographic Information Systems (GIS) are used in EIA to:
A) Calculate project costs
B) Analyze potential cultural impacts
C) Estimate noise levels
D) Display spatial data and analyze impacts on maps

78. Remote sensing is employed in EIA to:
A) Measure noise levels
B) Analyze water quality
C) Assess impacts on air quality
D) Collect data about the Earth's surface from a distance

79. Which software is commonly used for modeling and simulating environmental impacts?
A) Word processor software
B) Spreadsheet software
C) Video editing software
D) Specialized environmental modeling software

80. In EIA, the term "biota" refers to:
A) Human population density
B) Plants and vegetation
C) Air pollutants
D) Noise levels

81. The socio-economic environment encompasses aspects related to:
A) Erosion control
B) Water quality
C) Community well-being and livelihoods
D) Biodiversity conservation

82. The "Precautionary Principle" enshrined in the Environment (Protection) Act emphasizes:
A) Ignoring potential risks for the sake of development
B) Treating environmental protection as secondary to economic growth
C) Taking preventive measures when an activity could harm the environment
D) Reducing the authority of the central government in environmental matters

83. The amendments to the Environment (Protection) Act in 1991 extended its provisions to cover:
A) Only urban areas
B) Coastal areas and regulation of hazardous substances
C) Agricultural activities
D) Industrial zones only

84. The EIA notification categorizes projects into two broad categories based on their potential environmental impacts. These categories are:
A) Green and Red
B) Positive and Negative
C) Small and Large
D) Category A and Category B

85. The central and state pollution control boards were established under these acts to:
A) Promote pollution
B) Conduct scientific research on pollution
C) Implement and enforce pollution control measures
D) Provide incentives for polluting industries

86. Under the Water Act, 1974, no person can discharge any pollutant into a water body without obtaining:
A) A license from the Ministry of Finance
B) A permit from the local municipality
C) Permission from the local community
D) Consent from the State Pollution Control Board

87. The Air Act, 1981, empowers the central and state boards to take measures for:
A) Promoting air pollution
B) Banning industrial activities
C) Preventing and controlling air pollution
D) Distributing free masks to the public

88. Safety audits help in:
A) Ignoring workplace hazards
B) Enhancing occupational health and safety standards
C) Minimizing worker training
D) Reducing costs associated with safety measures

89. Disaster management plans are designed to:
A) Ignore potential risks and hazards
B) Address minor workplace incidents
C) Prevent natural disasters
D) Minimize the impact of major emergencies and disasters

90. The purpose of conducting drills and mock exercises in disaster management is to:
A) Waste time and resources
B) Create panic among employees
C) Test the effectiveness of emergency plans and responses
D) Decrease employee morale

91. Consider the following pairs:

a.	AQI	1.	ppm
b.	Discharge	2.	Litre
c.	Turbidity	3.	m^3/s
d.	Conductivity	4.	Unitless

Which of the above pairs are correctly matched?
A) a-1, b-3
B) c-1, b-3
C) d-4, a-1, b-3
D) a-4, b-3, c-1

92. Consider the following statements:
a. In the disinfection process chloramine compounds are formed in water.
b. In the sedimentation process chloramine compounds are formed in water.
c. In the filtration process chloramine compounds are formed in water.
d. In the skimming process chloramine compounds are formed in water.
Which of the above statements is/are correct?
A) ONLY- c
B) c and d
C) a and c
D) ONLY- a

93. Consider the following pairs:

a.	Hardness	1.	Attached growth bio-treatment
b.	pOH	2.	Cm/min
c.	Trickling filter	3.	Suspended growth bio-treatment
d.	Screening	4.	14

Which of the above pairs are correctly matched?
A) a-3, b-4
B) c-3, b-2
C) c-1, b-4
D) d-3, c-1

94. Consider the following statements:
a. Maximum permissible limit of Fluorides in drinking water is 1.5 ppm
b. E-coli is helpful for water purification.
c Coliform group bacteria always found in colonies.
d. Maximum permissible limit of Fluorides in drinking water is 0.5 ppm
Which of the above statements is/are correct?
A) ONLY- d
B) b and d
C) c and d
D) a and c

95. Arrange the following zones of sedimentation tank in sequence asper the flow of water processes in the tank.
1. Outlet zone
2. Inlet zone
3. Sludge zone
4. Settling zone
A) 2, 4, 3, 1
B) 3, 4, 2, 1
C) 2, 3, 1, 4
D) 3, 2, 4, 1

96. Consider the following statements:
a. Grit represents the heavier inert matter in wastewater.
b. Chloramine represents the heavier inert matter in wastewater.
c. Ammonia represents the purity of water.
d. Plankton represents the fully treated wastewater.
Which of the above statements is/are correct?
A) a and c
B) ONLY- a
C) b and c
D) ONLY- d

97. Consider the following pairs:

a.	NGT	1.	pH experiment
b.	Alum	2.	Chloride content experiment
c.	$AgNO_3$	3.	Coagulant
d.	HNO_3	4.	Peroxyacetyl nitrate

Which of the above pairs are correctly matched?
A) b-3, d-2
B) a-2, b-3
C) b-3, c-2
D) c-1, d-2

98. Consider the following pairs:

a.	Dilution	1.	Black in colour
b.	Septic sewage	2.	Brown in colour
c.	Neutral	3.	Green in colour
d.	EPA	4.	pH = 07

Which of the above pairs are correctly matched?

A) b-1, c-4
B) b-2, c-4
C) a-2, b-4
D) d-3, c-4

99. Arrange the following zones of river water pollution in the correct sequence of their occurrence after the discharge of effluent.

1. Zone of clear water
2. Zone of pollution
3. Zone of recovery
4. Zone of active decomposition

A) 1, 2, 3, 4
B) 1, 4, 2, 3
C) 2, 4, 3, 1
D) 4, 3, 1, 2

100. Consider the following statements:

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

Which of the above statements is/are correct?

A) b and c
B) ONLY- b
C) a and c
D) ONLY- a

101. What is the concentration of [H+] ions in water sample of pOH = 06?

A) 10^{-8}moles/L
B) 10^{-7}moles/L
C) 10^{-14}moles/L
D) 10^{-6} moles/L

102. What is the REA tool?

A) Rapid Energy Assessment
B) Reduce Energy Act
C) Revenue Environmental Act
D) Rapid Environmental Assessment

103. Where of the following greenhouse gases are present?

A) Troposphere
B) Stratosphere
C) Mesosphere
D) Thermosphere

104. When EPA came into force?

A) After Odisha Super Cyclone
B) After Gujarat Earthquake
C) After Bhopal Gas tragedy
D) After Tsunami

105. Consider the following statements:

a. Biodiversity Act passed in year 2002.
b. Biodiversity Act passed in year 2010.
c. Biodiversity Act passed in year 1996.
d. Biodiversity Act passed in year 1977.

Which of the above statements is/are correct?

A) a and b
B) ONLY- a
C) c and d
D) ONLY- d

106. Which section of Water Act 1974 deals with Compulsory acquisition of land for the State Board?

A) Section 57 of Water Act 1974
B) Section 56 of Water Act 1974
C) Section 54 of Water Act 1974
D) Section 55 of Water Act 1974

107. Consider the following pairs:

a.	COD	1.	Sanitary plumbing code
b.	IS 10500	2.	Hardness of water
c.	$CaCO_3$	3.	05 days
d.	NaOH	4.	Drinking water specification standards

Which of the above pairs are correctly matched?

A) b-4, c-2
B) a-3, b-1
C) d-2, a-3
D) a-2, b-4

108. What is the shape of prohibition sign?

A) Triangular
B) Square
C) Rectangular
D) Circular

109. What does the red colour indicate as per the colour code?

A) Fire prevention
B) Radiant hazards
C) First aid
D) General caution

110. What is acceptable limit of Mercury in drinking water?

A) 0.001 mg/L
B) 0.6 mg/L
C) 0.05 mg/L
D) 0.01 mg/L

111. Consider the following pairs:

a.	ASP	1.	Oil and Grease removal from sewage
b.	Fungi	2.	Type of coliform
c.	H_2S	3.	Secondary treatment method
d.	Skimming tank	4.	Healthy mineral in drinking water

Which of the above pairs are correctly matched?

A) b-1, c-3
B) a-2, b-1
C) a-3, d-1
D) a-2, b-4

112. Consider the following statements:

a. Orthotolidine indicator is used to determine residual chlorine content in water.
b. Orthotolidine indicator is used to determine MPN count for E-coli.
c. Orthotolidine is the strong acid.

Which of the following statements is/are correct?

A) ONLY - a
B) ONLY - b
C) a and b
D) b and c

113. At what pH value there is only bicarbonate alkalinity remain present in the water?

A) 20
B) 14
C) Below 8.3
D) 10

114. Consider the following pairs:

a.	Screen	1.	Gravity filter
b.	Denitrification	2.	Bacterial density
c.	RSF	3.	Threshold number
d.	Total Alkalinity	4.	Rising of sludge

Which of the above pairs are correctly matched?

A) a-4, c-2
B) b-4, c-1
C) a-2, c-4
D) a-2, c-1

115. Which of the following is an ANAEROBIC process for treating sewage?

A) Oxidation pond
B) Imhoff tank
C) Oxidation ditch
D) Rotating Biological Contactors

116. Arrange the following laboratory test procedure in the correct sequence to determine BOD_5 of sewage sample.

1. Incubation of diluted sewage sample for 05 days in BOD incubator
2. (D.O. depletion) X Dilution factor
3. Present day initial D.O.
4. 5^{th} day final D.O.

A) 3, 1, 4, 2
B) 3, 4, 1, 2
C) 4, 1, 3, 2
D) 4, 3, 1, 2

117. What is acceptable limit of Arsenic in drinking water?

A) 5 mg/L
B) 0.6 mg/L
C) 0.05 mg/L
D) 0.01 mg/L

118. Consider the following statements:

a. To measure the colour of water sample Nessler tubes is used.
b. To measure the turbidity of water sample Secchi disk is used.
c. To measure the odour of water sample litmus paper is used.

Which of the above statements is/are correct?

A) a and b
B) b and c
C) a and c
D) ONLY - a

119. Consider the following pairs:

a.	Unit of turbidity of water	1.	Tesla
b.	Unit of specific conductivity of water	2.	AQI
c.	$AgNO_3$	3.	NTU
d.	BOD	4.	Siemen

Which of the above pairs are correctly matched?

A) b-3, d-2
B) a-2, b-3
C) a-3, b-4
D) c-1, d-2

120. Consider the following pairs:

a.	pH of potable water	1.	Chemical characteristic of water
b.	Domestic water demand	2.	Physical characteristic of water
c.	Pathogens	3.	6.5-8.5
d.	BOD	4.	7

Which of the above pairs are correctly matched?

A) a-4, d-2
B) a-2, b-3
C) a-3, d-1
D) c-1, d-2

R WORK

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