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SSC-I NATIONAL BOOK FOUNDATION FBISE

CHEMISTRY TEST - CHAPTER 12: ENVIRONMENTAL CHEMISTRY - WATER

Name:		Roll No.		Section:

Total Time: 2:30 Hour
Time Allowed: 150 Minutes

Total Marks: 150

PAPER OBJECTIVE
SECTION-A (MARKS 150)

NOTE: Section-A is compulsory. All parts of this section are to be answered on these pages and handed over to the center superintendent. Deleting / overwriting is not allowed. Do not use lead pencil.

Q.1 Fill the relevant bubble for each part. All parts carry one mark.

Questions	A	B	C	D	A B C D
1. Water is the only substance that exists in _____ different states on Earth.	Two	Four	Three	One	○○●○
2. Pure water is transparent, colourless, odourless and:	Sour	Sweet	Tasteless	Salty	○○●○
3. Pure water boils at _____ at sea level.	100 °C	50 °C	212 °C	0 °C	●○○○
4. Pure water freezes at _____ at sea level.	−10 °C	0 °C	32 °C	100 °C	○●○○
5. Water can be detected with anhydrous:	Sodium chloride	Copper(II) sulphate	Iron sulphate	Calcium carbonate	○●○○
6. Anhydrous copper(II) sulphate is _____ in colour.	White	Blue	Pink	Green	●○○○
7. On absorbing water, anhydrous copper(II) sulphate turns:	Pink	Blue	Black	White	○●○○
8. Water is a very good:	Metal	Solvent	Catalyst	Fuel	○●○○
9. Natural water such as rainwater and groundwater is not:	Clear	Wet	Cold	Pure	○○○●
10. As water falls through the atmosphere it dissolves oxygen, nitrogen, carbon dioxide and:	Metals	Salt crystals	Plastic	Dust particles	○○○●
11. During thunderstorms, rainwater also dissolves:	Hydrochloric acid	Nitric acid	Acetic acid	Citric acid	○●○○
12. Groundwater dissolves _____ from rocks and soils.	Acids	Fuels	Plastics	Minerals	○○○●

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Questions	A	B	C	D	A B C D
13. Fish and other marine life get their oxygen from:	Air above water	Plants only	Sand	Dissolved oxygen in water	○○○●
14. Dissolved oxygen supports the _____ of aquatic organisms.	Photosynthesis	Respiration	Digestion	Growth only	○●○○
15. Natural water may contain metals such as iron, sodium, potassium and:	Argon	Neon	Helium	Magnesium	○○○●
16. Excess metal compounds in water can be:	Useful only	Poisonous	Colourful only	Tasty	○●○○
17. Plastic waste in water is a serious threat to:	Aquatic life	Rocks	Mountains	Sand	●○○○
18. Wastewater carries pathogens, bacteria and:	Minerals only	Gold	Oxygen	Viruses	○○○●
19. Harmful microbes in water can cause:	Tides	Sprains	Waterborne diseases	Fractures	○○●○
20. Which is a waterborne disease?	Fracture	Sprain	Cholera	Anemia	○○●○
21. Another example: Which is a waterborne disease?	Sprain	Fracture	Anemia	Dysentery	○○○●
22. Nitrates from fertilizers enter water bodies through agricultural:	Boiling	Evaporation	Freezing	Runoff	○○○●
23. High nitrate concentrations in drinking water are risky especially for:	Adults only	Elderly only	Fish only	Young children	○○○●
24. Phosphates in fertilizers and detergents cause:	Eutrophication	Ozone depletion	Smog	Acid rain	●○○○
25. Eutrophication can cause harmful _____ blooms.	Fish	Bacterial only	Coral	Algae	○○○●
26. Algae blooms reduce the _____ in water.	Light only	Nitrogen	Salt	Oxygen	○○○●
27. Detergents can destroy the outer _____ membranes that protect fish.	Bone	Mucous	Scale	Gill	○●○○
28. Detergents can also damage the fish's:	Tails	Gills	Eyes	Fins only	○●○○
29. Iron is necessary for producing _____ in the blood.	Glucose	Bile	Hemoglobin	Insulin	○○●○

Questions	A	B	C	D	A B C D
30. Hemoglobin carries _____ to the cells.	Carbon dioxide	Nitrogen	Oxygen	Water	○○●○
31. Zinc, copper and manganese activate _____ activity.	Muscle	Enzyme	Nerve	Bone	○●○○
32. Raw water is treated in a municipal water purification plant to make it fit for:	Drinking	Farming only	Painting	Industry only	●○○○
33. The first process in raw water treatment is:	Coagulation	Chlorination	Sedimentation	Filtration	○○●○
34. In sedimentation, suspended matter:	Dissolves	Floats	Sinks to the bottom	Evaporates	○○●○
35. Coagulation is carried out by adding slaked lime and:	Chlorine	Alum	Salt	Soda	○●○○
36. Alum is chemically:	Aluminium sulphate	Calcium sulphate	Aluminium chloride	Sodium sulphate	●○○○
37. Slaked lime is:	Calcium chloride	Calcium hydroxide	Calcium oxide	Calcium carbonate	○●○○
38. The gelatinous mass formed in coagulation is:	Sodium hydroxide	Aluminium hydroxide	Calcium hydroxide	Aluminium oxide	○●○○
39. Aluminium hydroxide carries down dirt particles and:	Minerals	Oxygen	Salt	Bacteria	○○○●
40. $3Ca(OH)_2 + Al_2(SO_4)_3 \rightarrow$	$2Al(OH)_3 + 3CaSO_4$	$Al_2O_3 + CaSO_4$	$2AlCl_3 + 3CaSO_4$	$Al(OH)_3 + CaS$	●○○○
41. Water is filtered through sand and:	Salt	Sugar	Gravel	Metal	○○●○
42. Sometimes water is filtered through _____ to remove colour and odour.	Charcoal	Paper	Sand only	Cotton	●○○○
43. In the final step of treatment, _____ is added to kill bacteria.	Lime	Chlorine	Charcoal	Alum	○●○○
44. Chlorine reacts with water to form:	Chloric acid	Hypochlorous acid	Hydrochloric acid only	Perchloric acid	○●○○
45. The formula of hypochlorous acid is:	$HClO_3$	$HClO$	HCl	$HClO_4$	○●○○
46. $Cl_2 + H_2O \rightarrow$	$HCl + O_2$	$HClO_3 + H_2$	$HClO + H^+ + Cl^-$	$ClO_2 + H_2$	○○●○

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Questions	A	B	C	D	A B C D
47. Water purified by distillation is called:	Distilled water	Tap water	Mineral water	Rain water	●○○○
48. Distillation involves heating water to boiling, collecting vapours and:	Freezing them	Filtering them	Mixing them	Condensing them	○○○●
49. In distillation, impurities are:	Burnt	Dissolved in vapour	Carried with vapour	Left behind	○○○●
50. The electrical conductivity of distilled water is very:	Moderate	High	Infinite	Low	○○○●
51. The pH of distilled water is:	9	1	5.6	7	○○○●
52. Long-term drinking of distilled water can cause:	Hepatitis	Mineral deficiency	Typhoid	Cholera	○●○○
53. Distilled water is usually used in laboratories to prepare chemical:	Soups	Drinks	Paints	Reagents and solutions	○○○●
54. Distilled water is used in the calibration of a:	Balance	Thermometer	Ruler	pH meter	○○○●
55. Water supplied through the municipal system to households is:	Mineral water	Tap water	Rain water	Distilled water	○●○○
56. Tap water comes from streams, rivers, lakes, reservoirs and:	Groundwater	Oil	Salt	Metals	●○○○
57. In a chemistry laboratory, tap water is used as a general:	Reagent	Solvent	Catalyst	Fuel	○●○○
58. Tap water is used for cleaning:	Papers	Plastics only	Metals only	Glassware	○○○●
59. The freshwater we drink is a _____ solution of minerals.	Concentrated	Saturated	Supersaturated	Dilute	○○○●
60. Which human activity pollutes water?	Household waste	Planting trees	Reading	Walking	●○○○
61. Another example: Which human activity pollutes water?	Pesticide use	Recycling	Using solar energy	Walking	●○○○
62. Yet another: Which human activity pollutes water?	Using solar energy	Walking	Oil leaks	Recycling	○○●○
63. Household wastes include human wastes, soaps, detergents and:	Soil only	Pure water	Garbage	Sunlight	○○●○
64. Compared with soap, detergents have _____ cleansing action.	Equal	No	Stronger	Weaker	○○●○

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Questions	A	B	C	D	A B C D
65. Detergents remain in water for a _____ time.	Short	Zero	Very short	Long	○○○●
66. Bacterial contents in water cause cholera, jaundice, hepatitis and:	Fracture	Anemia	Typhoid	Sprain	○○●○
67. Water purification removes bacteria, viruses and:	Salt	Oxygen	Minerals only	Parasites	○○○●
68. Heavy metals like As, Cr and Pb in water can cause:	Fracture	Fever only	Sunburn	Kidney diseases and cancer	○○○●
69. As in arsenic stands for the symbol:	As	At	Ar	Au	●○○○
70. Pb is the symbol of:	Iron	Zinc	Lead	Tin	○○●○
71. Cr is the symbol of:	Calcium	Copper	Chromium	Cobalt	○○●○
72. Human waste contains infectious _____ that spread diseases.	Gases	Metals	Microorganisms	Minerals	○○●○
73. Hepatitis is a _____ disease.	Genetic	Fungal	Viral	Bacterial	○○●○
74. Hepatitis types that spread through polluted water are:	A and E	D and B	C and D	B and C	●○○○
75. Unclean water and poor sanitation kill about _____ people worldwide each year.	268	2,668,000	2 billion	26,680	○●○○
76. Water in swimming pools is purified by aeration and:	Chlorination	Distillation	Freezing	Boiling	●○○○
77. Chlorination is NOT effective against:	Parasites	Viruses like hepatitis	Bacteria	All microbes	○●○○
78. Dysentery is caused by a parasite:	Entamoeba	Hepatitis virus	Salmonella	Plasmodium	●○○○
79. Dysentery is transmitted by:	Touch only	Fecal contamination of water or food	Air	Sunlight	○●○○
80. Dysentery symptoms include abdominal cramps and:	Rash	Diarrhea	Cough	Sneezing	○●○○
81. Jaundice proceeds from obstruction of the:	Lung	Kidney	Liver	Heart	○○●○

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Questions	A	B	C	D	A B C D
82. Jaundice causes yellowness of the:	Hair	Nails	Skin and eyes	Teeth	○○●○
83. Hepatitis is an acute inflammation of the:	Kidney	Lung	Heart	Liver	○○○●
84. Typhoid is caused by bacteria such as:	Hepatitis A	E. histolytica	Salmonella typhi	Entamoeba	○○●○
85. Typhoid is characterized by continuous fever between:	110 °F and 120 °F	95 °F and 98 °F	101 °F and 104 °F	90 °F and 95 °F	○○●○
86. Waterborne diseases are mainly spread by:	Polluted water	Dry air	Sunlight	Soil only	●○○○
87. To reduce low oxygen levels in water bodies, we should control:	Temperature	Sunlight	Nutrient flow	Rain	○○●○
88. Heavy metals accumulate in the _____ of aquatic organisms.	Shells only	Water only	Tissues	Scales only	○○●○
89. Preventing industrial wastewater from entering waterways reduces:	Sunlight	Heavy metal pollution	Salt	Rainfall	○●○○
90. Proper sanitation and hygiene help prevent:	Sprains	Waterborne diseases	Colour blindness	Fractures	○●○○
91. Water scarcity is a major problem in:	Pakistan	Antarctica only	Oceans only	None	●○○○
92. A cause of water scarcity in Pakistan is rapid:	Floods only	Population decline	Rainfall surplus	Population growth	○○○●
93. Climate change causes _____ rainfall patterns.	Constant	Regular	Irregular	No	○○●○
94. Excessive extraction from groundwater aquifers causes water resources to:	Increase	Double	Stay the same	Decline	○○○●
95. Traditional flood irrigation causes losses through:	Dissolving	Condensation	Evaporation	Freezing	○○●○
96. To solve water scarcity, we need effective water management and:	Less awareness	Illegal drilling	More pollution	Infrastructure development	○○○●
97. Strict regulations are needed to control groundwater and prevent illegal:	Drilling	Planting	Reading	Walking	●○○○
98. Fertilizers provide essential elements for:	Plant growth	Metals	Animal growth	Water	●○○○

Questions	A	B	C	D	A B C D
99. NPK stands for nitrogen, phosphorus and:	Platinum	Polonium	Plutonium	Potassium	○○○●
100. N in NPK stands for:	Neon	Nickel	Nitrate	Nitrogen	○○○●
101. P in NPK stands for:	Phosphorus	Potassium	Platinum	Polonium	●○○○
102. K in NPK stands for:	Carbon	Calcium	Krypton	Potassium	○○○●
103. The symbol K is used for potassium from the Latin name:	Kryptos	Kaolin	Kalium	Potassium	○○●○
104. Which is an important fertilizer?	Sand	Chalk	Table salt	Urea	○○○●
105. Another example: Which is an important fertilizer?	Sand	Table salt	Potassium nitrate	Chalk	○○●○
106. Yet another: Which is an important fertilizer?	Di-ammonium phosphate	Chalk	Table salt	Sand	●○○○
107. Fertilizers dissolve in water, so they provide nutrients in a _____ form.	Hidden	Readily available	Insoluble	Solid only	○●○○
108. Giving fertilizers at the right time and amount is called:	Pest control	Nutrient management	Crop rotation	Irrigation	○●○○
109. Nutrient management reduces nutrient _____ into water bodies.	Freezing	Runoff	Absorption	Storage	○●○○
110. The formula of urea is:	$CO(NH_2)_2$	KNO_3	NaCl	NH_4Cl	●○○○
111. The formula of potassium nitrate is:	KCl	KNO_3	KNO_2	K_2NO_3	○●○○
112. Ammonium salts such as ammonium nitrate are rich in:	Sodium	Phosphorus	Nitrogen	Potassium	○○●○
113. Which is NOT a waterborne disease?	Typhoid	Hepatitis	Anemia	Dysentery	○○●○
114. Which human activity contaminates water bodies?	All of these	Septic tanks	Livestock waste	Pesticides	●○○○
115. Another example: The pH of distilled water is:	More than 7	Less than 7	Zero	Exactly 7	○○○●
116. Anhydrous copper(II) sulphate is a _____ solid.	Pink	White	Yellow	Blue	○●○○

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Questions	A	B	C	D	A B C D
117. Why are municipal supplies treated with aluminium sulphate?	To coagulate dirt	To add colour	To heat water	To add taste	●○○○
118. Public health depends on water:	Quality	Weight	Colour	Density	●○○○
119. Washing hands with soap after using bathrooms prevents:	Spread of germs	Water loss	Colour change	Hardness	●○○○
120. The treatment steps for domestic supply are sedimentation, filtration and:	Freezing	Chlorination	Boiling	Distillation	○●○○
121. Water from natural resources contains useful and _____ substances.	Harmful	Gaseous	Colourful	Magnetic	●○○○
122. Nitrates and phosphates in water damage:	Rocks	Aquatic life	Sand	Metals	○●○○
123. Sewage contains harmful microbes which cause:	Diseases	Colour	Growth	Healing	●○○○
124. Which element is necessary for biological processes but toxic in excess?	Copper	Neon	Helium	Argon	●○○○
125. Which mineral supports hemoglobin?	Iron	Chlorine	Lithium	Sodium	●○○○
126. A swimming pool is kept free from pathogens by:	Heating	Freezing	Chlorination	Painting	○○●○
127. The first-stage 'sedimentation' needs water to:	Evaporate	Boil	Stand in a reservoir	Freeze	○○●○
128. Distilled water is better not used for:	Lab reagents	Making solutions	Long-term drinking	Calibration	○○●○
129. Chlorine kills bacteria by forming:	Nitric acid	Hypochlorous acid	Hydrochloric acid only	Carbonic acid	○●○○
130. The water pollution model chart can be made using:	Only formulas	Only poems	Only tables	Diagrams of sources and effects	○○○●
131. Which is a biological contaminant of water?	Salt	Plastic	Iron	Bacteria	○○○●
132. Which is a chemical contaminant of water?	Heavy metals	Parasites	Viruses	Bacteria	●○○○
133. Which is a physical contaminant of water?	Bacteria	Suspended soil particles	Heavy metals	Viruses	○●○○

Questions	A	B	C	D	A B C D
134. Aeration means:	Freezing water	Mixing water with air	Distilling water	Heating water	○●○○
135. Poor sanitation results in:	Water pollution	Clean water	Fresh air	Rainfall	●○○○
136. The color and bad smell of water can be removed by:	Sugar	Salt	Activated carbon	Sand only	○○●○
137. The main use of alum in water treatment is:	Coagulation	Disinfection	Distillation	Aeration	●○○○
138. Municipal water purification includes sedimentation, coagulation, filtration and:	Freezing	Distillation	Boiling	Chlorination	○○○●
139. Environmental chemistry of water studies pollution and:	Star formation	Planet orbits	Rock types	Water treatment	○○○●
140. Water treatment makes water safe by removing solids, colour, taste and:	Microbes	Salt	Oxygen	Minerals only	●○○○
141. Which of these is a good practice to save water?	Leaving taps on	Fixing leaking taps	Washing cars daily	Irrigating by flooding	○●○○
142. Which type of irrigation can reduce water loss?	Drip irrigation	Flood irrigation	No irrigation	Sprinkling at noon	●○○○
143. Sewage poured into open gutters can spread:	Diseases	Growth	Colour	Healing	●○○○
144. Why should wastewater be treated before entering lakes and rivers?	To protect aquatic life and people	To add salt	To make it hot	To add colour	●○○○
145. Fertilizers are often applied to farm land to increase crop:	Smell	Weight of soil	Yield	Colour	○○●○
146. A high level of phosphate in lakes leads to:	More fish oxygen	More sunlight	Cleaner water	Excessive algae growth	○○○●
147. The process of oxygen depletion in water bodies due to algal growth is a result of:	Chlorination	Eutrophication	Evaporation	Sedimentation	○●○○
148. The main role of chlorine in water treatment is:	Filtration	Aeration	Disinfection	Coagulation	○○●○
149. The use of carbon filters removes colour and:	Oxygen	Minerals	Taste and odour	Salt	○○●○
150. A body needs minerals in drinking water; hence long-term use of distilled water is:	Recommended	Beneficial	Required	Not advisable	○○○●

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