Chemistry in Everyday Life

Q.No.1: 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 : **JEE 2017**

A. both SO_4^{2-} and NO_3^-

B. only F^-

C. only SO_4^{2-}

D. only NO_3^-

Q.No.2: The correct match between Item-I and Item-II is:

	Item-I (drug)		Item-II (test)
A	Chloroxylenol	P	Carbylamine test
B	Norethindrone	Q	Sodium hydrogen-carbonate test
C	Sulphapyridine	R	Ferric chloride test
D	Penicillin	S	Bayer's test

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A. A → R; B → P; C → S; D → Q

B. A → Q; B → S; C → P; D → R

C. A → R; B → S; C → P; D → Q

D. A → Q; B → P; C → S; D → R

Q.No.3: A water sample has ppm level concentration of the following metals: Fe = 0.2; Mn = 5.0; Cu = 3.0; Zn = 5.0. The metal that makes the water sample unsuitable for drinking is: **JEE 2019**

A. Cu

B. Mn

C. Fe

D. Zn

Q.No.4: Which of the following conditions in drinking water causes methemoglobinemia? **JEE 2019**

A. > 50 ppm of lead

B. > 50 ppm of chloride

C. > 50 ppm of nitrate

D. > 100 ppm of sulphate

Q.No.5: The pH of rain water, is approximately: **JEE 2019**

A. 5.6

B. 7.5

C. 7.0

D. 6.5

Q.No.6: Water filled in two glasses A and B have BOD values of 10 and 20, respectively. Which of the following is the correct statement? **JEE 2019**

A. B is more polluted than A.

B. A is suitable for drinking, whereas B is not.

C. Both A and B are suitable for drinking.

D. A is more polluted than B.

Q.No.7: The reaction that is **NOT** involved in the ozone layer depletion mechanism in the stratosphere is : **JEE 2019**

A. $\mathrm{CF_2\,Cl_2\,(g)} \xrightarrow{\mathrm{uv}} \dot{\mathrm{C}}\mathrm{l\,(g)} + \dot{\mathrm{C}}\mathrm{F_2\,Cl\,(g)}$

B. $\mathrm{Cl\,\dot{O}\,(g) + O\,(g)} \rightarrow \dot{\mathrm{C}}\mathrm{l\,(g)} + \mathrm{O_2\,(g)}$

C. $\mathrm{CH_4 + 2O_3} \rightarrow \mathrm{3\,CH_2 = O + 3H_2O}$

D. $\mathrm{HOCl\,(g)} \xrightarrow{h\upsilon} \dot{\mathrm{O}}\mathrm{H\,(g)} + \dot{\mathrm{C}}\mathrm{l\,(g)}$

Q.No.8: The correct match between **Item I** and **Item II** is :

	Item I	**Item II**
(A)	Allosteric effect	(P) Molecule binding to the active site of enzyme

(B)	Competitive inhibitor	(Q)	Molecule crucial for communication in the body
(C)	Receptor	(R)	Molecule binding to a site other than the active site of enzyme
(D)	Poison	(S)	Molecule binding to the enzyme covalently

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A. (A) → (R); (B) → (P); (C) → (Q); (D) → (S)
B. (A) → (P); (B) → (R); (C) → (Q); (D) → (S)
C. (A) → (R); (B) → (P); (C) → (S); (D) → (Q)
D. (A) → (P); (B) → (R); (C) → (S); (D) → (Q)

Q.No.9: The correct match between item (I) and item (II) is:

	Item - I		**Item - II**
(A)	Norethindrone	(P)	Anti-biotic
(B)	Ofloxacin	(Q)	Anti-fertility
(C)	Equanil	(R)	Hypertension
		(S)	Analgesics

JEE 2019

A. (A) → (Q); (B) → (R); (C) → (S)
B. (A) → (Q); (B) → (P); (C) → (R)
C. (A) → (R); (B) → (P); (C) → (S)
D. (A) → (R); (B) → (P); (C) → (R)

Q.No.10: The concentration of dissolved oxygen (DO) in cold water can go upto: **JEE 2019**

A. 14 ppm
B. 8 ppm
C. 10 ppm
D. 16 ppm