

Engineering Chemistry

WorkSheet

Unit 1: Water and its Treatment

Choose the correct Answer

- The units of hardness is expressed in terms of
(a) ppm (b) mg/l (c) clark degree (d) All the above
- The amount of chlorine required to kill bacteria is called
(a) Disinfection (b) break point of chlorination
(c) sedimentation (d) coagulation
- The process of treating the water in boiler is called
(a) External treatment (b) internal treatment
(c) ion exchange process (d) none of these
- The formula of bleaching powder is
(a) CaOCl_2 (b) Ca(OH)_2
(c) CaCO_3 (d) NaOH
- Temporary hardness in water is removed by
(a) filtration (b) Sedimentation
(c) boiling (d) Coagulation
- The salts responsible for hardness of water are
a) $\text{Ca}^{+2}, \text{Mg}^{+2}$ b) Al^{+2} c) Na^+, K^+ d) None

7. The color of EB-T indicator in EDTA method
- (a) pink (b) blue (c) wine red (d) colourless
8. The Specifications of Potable Water
- a) Colorless b) odourless c) Tasteless d) ALL the above
9. The Methods used for Disinfection of Water treatment
- a) Ozonization c) Chlorination
- b) both a and b d) Phenolic Treatment
10. The process of removal of hardness of water irrespective of whether it is temporary or permanent is termed as
- a) Cleanising action of water b) Hardness of water
- c) Softening of water d) Purity of water

Fill in the Blanks

11. The indicator used in the complexometric method _____
12. The hard precipitates formed on the inner walls of the boiler is _____
13. The process of removing salt from water is called _____
14. The soft precipitate formed in the boiler is _____
15. EDTA is _____
16. PH of portable water _____
- 17.

18. The process of allowing the water to stand for long period of time without disturbing is called _____
19. The process of killing harmful bacteria in potable water is called _____
20. Hardness of water is conventionally expressed in terms of equivalent amount of _____
21. $MgCl_2$ & $MgSO_4$ in water produces _____ hardness

True/False

22. The water which produces lather with soap is called Hard Water True /False
23. Permanent hardness is removed by Boiling Method True /False
24. Ion Exchange Process is also known as Demineralization Process True /False
25. According to Specifications of potable the turbidity should not exceed 10 ppm
True /False
26. Phosphate Conditioning is one of the methods in internal treatment True /False

Match the Following

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|----------------------------------|-------------------------------|
| 27. Chemical name of calgon | a) Colorless |
| 28. Color change in EDTA Method | b) Wine Red to Blue |
| 29. Molecular Weight of $CaCO_3$ | c) Eriochrome Black T |
| 30. EBT | d) 100 |
| 31. Metal -EDTA | e) Sodium Hexa Meta Phosphate |