

08-02-2023 Test-3 BE I Year CSE A, CSE B
1ACRC2 Applied Chemistry and Environmental Science
Max marks: 20, Time: 70 mins

Note: Answer any four questions carrying equal marks.

- Q.1 Define and classify water hardness. Calculate temporary, permanent and total hardness of water containing following impurities (mg/L): $\text{Mg}(\text{HCO}_3)_2 = 36$, $\text{Ca}(\text{HCO}_3)_2 = 81$, $\text{CaSO}_4 = 68$, $\text{MgCl}_2 = 95$, $\text{CaCl}_2 = 111$, $\text{NaCl} = 25$. Is this water sample fit for drinking?
- Q.2 List and explain various boiler troubles associated using hard water.
- Q.3 Compare between Lime-soda method and Ion-exchange method used for water softening including their principle, process, advantages and limitations.
- Q.4 Define Spectroscopy.

Q.4 List and classify air pollutants including their examples, sources, harmful effects and possible control measures.

Q.5 Name four segments of Environment. Explain any one segment in detail including our interactions with it.