

G H Raisoni College of Engineering and Management, Pune.
(An Autonomous Institution affiliated to Savitribai Phule ,Pune University)
FY B.TECH (All Branches) (TERM -II)
ESE SUMMER 2024 (2020 Pattern)
Environmental Chemistry (UBSL102)

[Time: 2.0 Hours]

[Max. Marks-50]

Instructions to the candidates:

- 1) *All questions compulsory.*
- 2) *Neat diagrams must be drawn wherever necessary.*
- 3) *Figures to the right indicate full marks.*
- 4) *Assume suitable data, if necessary.*

Q. No.	Sub Question	Question	Marks	CO	BL
1	a)	Explain the Scale & Sludge formation in boiler. Discuss Causes & prevention.	[5]	CO1	L2
	b)	Explain the determination of Total Hardness of water by EDTA method.	[5]	CO1	L2
OR					
2	c)	Discuss the various steps involved in purification of domestic water.	[5]	CO1	L2
	a)	Explain the principal of 3 R' s with neat diagram for e- waste.	[5]	CO2	L2
3	b)	Discuss solid waste on the basis of sources & types. Explain the various stages involved in solid waste management.	[5]	CO2	L2
	a)	Mention the various components of battery. Discuss their role & reactions involved.	[5]	CO3	L2
4	b)	Describe construction and working of dry cell-Laclanche battery along with diagram & reactions involved.	[5]	CO3	L2
	OR				
5	c)	Describe the construction and working of H ₂ -O ₂ fuel cell along with diagram & reactions involved.	[5]	CO3	L2
	a)	Explain the term GCV and LCV. Show the relationship between them .In a Boy's calorimeter a gaseous fuel was burnt. Find the Gross calorific value from the following data Quantity of water passing through the coil 25 kg Volume of gas used 0.1 m ³ at STP Temperature of inlet water 20 °C Temperature of outlet water 33 °C	[5]	CO3	L3
5	b)	Explain construction and working of Biogas plant as source of non-conventional energy. Mention one advantages & disadvantages of this source of energy.	[5]	CO3	L2
	a)	Explain two sources of air pollution .Describe any one controlling method of it. Mention two bad effect of air pollution on environment.	[5]	CO4	L2
	b)	Explain the term Water quality index (WQI) . Explain two sources of water pollution with their effect. Mention controlling method of water pollution	[5]	CO4	L2