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G H Raisoni College of Engineering and Management, Pune
(An Empowered Autonomous Institute affiliated to Savitribai Phule, Pune University, NAAC Accredited "A+" Grade)
First Year B. Tech.

(TERM-I)
CAE II Winter 2025 (2023 Pattern)
Environmental Chemistry (23UBSL1102)

(Time: - 01 Hour)

(Max. Marks:20)

Instructions to the students:

- i) All questions are compulsory. ii) Neat diagrams must be drawn wherever necessary.
iii) Figures to the right indicate full marks. iv) Use of scientific calculator is allowed
v) Assume suitable data, if necessary.

Q.No.	Question	Marks	CO	BL
1	a) Explain the working of Boy's gas calorimeter with neat labelled diagram. Derive the expression of HCV & LCV.	4	3	L2
	OR			
	b) On burning 0.75 gm coal in a Bomb Calorimeter, the temperature of 950 g of water increased from 25.5°C to 28.5°C. Water equivalent of the calorimeter was 400 gm. If the fuel contains 5% H, calculate the HCV & NCV of the coal.	4	3	L3
2	a) Explain the Air Quality Index (AQI). Mention any two pollutants as per WHO and discuss their sources & effect on human life.	4	4	L2
	OR			
	b) A city reports repeated respiratory illness outbreaks. Apply the classification of pollutants to describe the source & effect of any two primary air pollutants responsible.	4	4	L3
	c) Describe the types of air pollutants & two controlling methods for gaseous air pollutants.	4	4	L2
	OR			
	d) Explain the Electrostatic precipitator for air pollution control with diagram.	4	4	L2
3	a) Explain water pollution control by Nano zero valent Iron and Bioaugmentation.	4	4	L2
	OR			
	b) Explain the Term WQI. Mention effect of heavy metal contaminant on human life.	4	4	L2
	c) Explain the concept of Eutrophication. Discuss its causes & effect on river plants & animals	4	4	L2
	OR			
	d) Apply your knowledge of heavy metal toxicity to explain the impact of lead and arsenic contamination on drinking water quality.	4	4	L3

BL – Bloom's Taxonomy Levels (1- Remember, 2- Understand, 3 – Apply, 4 – Analyze, 5 –Evaluate, 6 – Create)

750
400
550