

THE KAVERY ENGINEERING COLLEGE*(An Autonomous Institution)***UG/PG DEGREE END SEMESTER THEORY EXAMINATIONS, APRIL-MAY 2026*****Second Semester******M.E - Environmental Engineering*****PEVE2411 - ENVIRONMENTAL MONITORING INSTRUMENTS*****Regulations - 2024******Duration: 3 Hrs.******Maximum: 100 Marks******PART – A (ANSWER ALL QUESTIONS) (Marks 10*2=20)***

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
1.	List any two limitations of wet chemistry methods.	L1	1	2
2.	What is meant by quality control in environmental monitoring?	L2	1	2
3.	Write the principle of fluorimetry.	L2	2	2
4.	What is the function of a flame photometer?	L2	2	2
5.	Name one technique for analyzing trace organics in the environment.	L1	3	2
6.	Mention any two environmental applications of HPLC.	L2	3	2
7.	Define potentiometry.	L1	4	2
8.	What is coulometry used for?	L2	4	2
9.	Name any one continuous particulate analyzer.	L2	5	2
10.	List any two instruments used for air pollutant monitoring.	L1	5	2

PART – B (ANSWER ALL QUESTIONS) (Marks 5*16 = 80)

<i>Q.No</i>	<i>Questions</i>	<i>BLT</i>	<i>CO</i>	<i>Marks</i>
11. a	Explain the principles and limitations of wet chemistry methods used in environmental monitoring	L3	1	16
	Or			
b	Describe the steps involved in sample preservation, preparation, and analyte isolation.	L3	1	16
12. a	Describe the working and applications of Atomic Absorption Spectrometry (AAS) including various modes.	L3	2	16
	Or			
b i	Discuss the role of Inductively Coupled Plasma (ICP) in environmental monitoring.	L3	2	8
ii	Explain the working principle of a TOC analyzer	L2	2	8
13. a	Explain the working of Ion Chromatography with a suitable diagram and environmental application.	L3	3	16

Or

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| b | Discuss the principle and application of ICP-MS in monitoring environmental samples. | L3 | 3 | 16 |
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| 14. a | i | Describe the working principle and environmental significance of coulometry and amperometry. | L4 | 4 | 8 |
| | ii | Compare and contrast polarography and electro-capillary analysis with neat diagrams. | L4 | 4 | 8 |

Or

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| b | Discuss the techniques of NAA, XRF, and XRD used in environmental monitoring. | L4 | 4 | 16 |
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| 15. a | i | Describe the chemiluminescent analyzer used for continuous NO _x monitoring. | L3 | 5 | 8 |
| | ii | Write about the fluorescent analyzer used for SO ₂ monitoring. Discuss its application in air pollution control. | L3 | 5 | 8 |

Or

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| b | Write in detail about flow injection analysis and the working of an auto analyzer for water quality parameters. | L3 | 5 | 16 |
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