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MEVE–018

M. SC. (ENVIRONMENTAL SCIENCE)
(MSCENV)

Term-End Examination

December, 2024

**MEVE–018 : INSTRUMENTATION TECHNIQUES
FOR ENVIRONMENTAL MONITORING**

Time : 3 Hours

Maximum Marks : 100

Note : Answer any **ten** questions. All questions carry equal marks.

1. Explain the concept of time and frequency in sampling. 10
2. How does thin layer chromatography work ? Explain its applications. 10
3. Briefly explain the following : 5+5
 - (a) Working principle of supercritical fluid chromatography
 - (b) Reverse and Normal Phase HPLC

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4. State Franck-Condon's principle. What is its significance ? 10
5. Describe hollow cathode lamp. Explain its working principle. 10
6. Define cytophotometry. Explain the principle of flow cytometry. 10
7. What is the principle of phase contrast microscope ? Explain. 10
8. Describe the applications of capillary electrophoresis in analysis of environmental pollutants. 10
9. What are the applications of biochemical and molecular biology techniques in clinical investigations ? 10
10. Define biosensor. What are the advantages of conductometric biosensors ? 10
11. Describe the affimetrix microarray technology. 10
12. What are hybrid nanopores ? What are their advantages over other nanopore sequencing methods ? 10

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13. Write short notes on the following : 5+5

- (a) Enzyme linked immunoassay
- (b) Immunofluorescence

14. What are good laboratory practices ?
Explain. 10

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