

No. of Printed Pages : 3

MEV-013

**M. SC. (ENVIRONMENTAL SCIENCE)
(MSCENV)**

Term-End Examination

June, 2023

MEV-013 : ENVIRONMENTAL CHEMISTRY

Time : 3 Hours

Maximum Marks : 100

Note : (i) Answer any **ten** questions.

(ii) Each question carries 10 marks.

1. Explain the basic instrumentation for UV-Vis spectrophotometry and its environmental applications.
2. What is adsorption ? Explain the mechanism of adsorption with suitable examples.
3. Explain the toxic effects of the following on enzymes :
 - (a) Mercury
 - (b) Arsenic

P. T. O.

4. Write short notes on the following :
 - (a) Bioplastics
 - (b) Soil profile
5. Explain the reasons for the following :
 - (a) Graphite acts as a lubricant
 - (b) Use of DDT as insecticide banned
 - (c) Addition of alum to purify water
 - (d) Aluminium sulphate is used as coagulant
6. What is scintillation process ? Describe the working mechanism of scintillation counter.
7. What is the working principle of HPLC ? What is the advantage of HPLC over GLC ?
8. Describe the mechanism of ozone formation in the lower atmosphere.
9. Explain the following in brief :
 - (a) Aerosols in atmospheric smog
 - (b) Harmful effects of Nitrogen oxides

[3]

10. Define water quality. Explain physical properties of water.
11. What are the various applications of radioisotopes in environmental monitoring ?
12. Explain the role of carbonate system in oceans.
13. What are the applications of chromatography technique in environmental monitoring ?
14. What are supercritical fluids (SCF) ? Explain with examples the reactions in which SCFs are used as green solvents.