

**ENVIRONMENTAL STUDIES LAB**

**Paper Code –ETEN-160**

**P C**

**Paper : Environmental Studies Lab**

**2 1**

**LIST OF EXPERIMENTS**

1. Determination of pH, conductivity and turbidity in drinking water sample.
2. Determination of pH and conductivity of soil/sludge samples.
3. Determination of moisture content of soil sample.
4. Determination of Total Dissolved Solids (TDS) of water sample.
5. Determination of dissolved oxygen (DO) in the water sample.
6. Determination of Biological oxygen demand (BOD) in the water sample.
7. Determination of Chemical oxygen demand (COD) in the water sample.
8. Determination of Residual Chlorine in the water sample.
9. Determination of ammonia in the water sample.
10. Determination of carbon dioxide in the water sample.
11. Determination of nitrate ions or sulphate ions in water using spectrophotometer.
12. Determination of the molecular weight of polystyrene sample using viscometer method.
13. Base catalyzed aldol condensation by Green Methodology.
14. Acetylation of primary amines using eco-friendly method.
15. To determine the concentration of particulate matter in the ambient air using High Volume Sampler.

**P.S.:** For better understanding of various aspects of environment visits to local areas, depending upon easy access and importance may be planned to any nearby river, forest, grassland, hills and students should write a report based on their observations.

**Suggested Books:**

1. [A. I. Vogel](#), [G. H. Jeffery](#), *Vogel's Text Book of Quantitative Chemical Analysis*, Published by Longman Scientific & Technical, 5<sup>th</sup> Edition, 1989.
2. [dst.gov.in/green-chem.pdf](http://dst.gov.in/green-chem.pdf) (monograph of green chemistry laboratory experiments).
3. S. Chawla, *Essentials of Experimental Engineering Chemistry*, Dhanpat Rai & Co., 3<sup>rd</sup> Edition, 2008.
4. S. Rattan, *Experiments in Applied Chemistry*, Published by S.K.Kataria & Sons, 2<sup>nd</sup> Edition, 2003.
5. W. Cunningham and M. A. Cunningham, *Principles of Environment Science: Enquiry and Applications*, Tata McGraw Hill Publication, N. Delhi, 2003.
6. A. Kaushik and C. P. Kaushik, *Perspectives in Environment Studies*, 4<sup>th</sup> Edition, New Age International Publishers, 2013.

**Note:- Any 8-10 Experiments out of the list may be chosen.**

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