

V. P. R. P. T. P. Science College, Vallabh Vidyanagar

Add-on Certificate Courses

Course Title : Water analysis

Coordinator : Dr. G. M. Patel [coordinator] and Dr. T. K. Darji

Department : Chemistry

Duration : 30 Hrs (Theory: 15 hours + Practical: 15 hours)

Content :

- Introduction
- Hard and soft water - hardness of water, methods to express the hardness of water
- Impurities in water - dissolved, suspended, colloidal, microorganism
- Examination of drinking and industrial waste water - physical, chemical and bacteriological tests
- Standards of drinking water
- Theory and Practicalson :Determination of hardness of water, Determination of chloride, phosphate, pH, acidity, alkalinity, conductivity, total dissolve solid, sulphate, dissolved oxygen, chemical oxygen demand and biochemical oxygen demand.

Out Come of the course:

On completion of Water Analysis course students will be able to:

1. Recognize and define the quality parameters used to characterize drinking water and waste water.
2. Describe various types of process units used for preliminary and primary treatment. Example Screening, settling etc.
3. Describe and explain how biological waste water is collected ad preserved in laboratory for determination of various parameters.
4. Make solution of different concentration, handling glassware, equipment and instruments used for determination of various parameters.

Ref. Book :

1. Chemistry for environmental Engineering and Science by Sawyer, C. and Mc Carty P. and Parkin, G.
2. Analytical Chemistry by Dr. Alka L. Gupta.
3. Environmental Biology and Toxicological By P. D. Sharma.
4. Standard Methods for the Examination of Water and Wastewaterby E.W. Rice (Editor), R.B. Baird (Editor), A.D. Eaton (Editor), American Public Health Association.