

**ANDHRA CHRISTIAN COLLEGE :: GUNTUR**  
**(Day, Evening & P.G.)**  
**NOTICE**

Date : 01-11-2022

All the 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> year B.Sc. students are hereby informed to submit their names for the certified course on "Water Quality Analysis " for the Students of Y22 Batch to the H.O.D., Department of Chemistry, Guntur on or before 09-11-2022. The Course will commence from 09-11-2022 and the duration of the course is 30 days.

**H.O.D.**  
**Dept of Chemistry**

**Copy to:**

1. The Co-ordinator, IQAC, Andhra Christian College.
2. The Office Manager, Andhra Christian College.

  
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**ANDHRA CHRISTIAN COLLEGE**  
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## CERTIFICATE COURSE IN WATER QUALITY ANALYSIS

Andhra Christian college, Guntur,  
Department of Chemistry

**Course Description:** This course introduces students to standard water quality methods used and applied in rural and urban areas in Andhra Pradesh, from where the student hails from. The students will become familiar with water quality standard and programs that help safeguard drinking water quality in rural and urban communities.

Key topics covered include importance of water, water quality parameters for drinking and industrial purposes, water pollution, waste water management, water quality measurements and data analysis. The course is basically designed for the students of B.Sc, who has chemistry as one of the subjects.

The course will be taught using a combination of lectures, laboratory analysis, field experiences and home work/ assignments. Laboratory sessions are intended to provide opportunity for the students to conduct quality sampling, testing and data recording with special attention to quality assurance in dissolved oxygen,  $P^H$ , temperature, conductivity and turbidity. Lectures cover topics that will allow students to accurately collect data, the guidelines of water quality standards and report information.

## Course Objectives:

- Identify water sources and their characteristics, major types of water pollution and its effects on aquatic ecosystems.
- Identify the ways in which humans influence aquatic systems, understand water quality parameters suggested by WHO.
- Perform standard water quality analysis on the local water sources , rain wter, tanks,wells,canals and Municipal water (DO, P<sup>H</sup>, T, EC and turbidity.)
- Learn to use Excel spread sheets for data entry and plotting.
- Discuss and list ways to reduce water pollution.
- Perform a literature search on water quality in urban, rural and industrial areas.
- Complete a water quality report based on the work completed in this course.

## Syllabus:

### Theory syllabus:

#### 1. Introduction to water quality

Importance of water, sources of water – composition and characteristics of natural water- characteristics imparted by impurities in water- effect of temperature, equilibria in water systems. 5

#### 2. Water quality characteristics

Physical, chemical and biological characteristics of water – standard methods of determination of important physical and chemical parameters of water quality. 8

Eg: PH, turbidity, electrical conductivity, total solids, alkalinity, hardness etc.

Units of measurements and expression of results, Bacteriological indicators, and determination of coliforms. 5

#### 3. Water quality representation and standards.

### Practical syllabus:

#### 1. Water sampling methods.

2. Physical characteristics and measurements – odour, colour, temperature etc.

3. Determination of hardness of water

4. Determination of alkalinity of water.

5. Determination of acidity of water

6. Determination of dissolved oxygen in water

7. Determination of PH of water. 12