



**HEMCHANDRACHARYA NORTH GUJARAT UNIVERSITY, PATAN**

Program Name : B. Sc. Chemistry

Semester : II

PROGRAM CODE : SCIUG102

COURSE CODE : SC23SECCE206C

Type of course : Skill Enhancement Course SEC

Name of course : Water Quality Assessment

Total Marks : 50

Effective from June 2023 Under NEP 2020

|                    |                                 |        |                   |
|--------------------|---------------------------------|--------|-------------------|
| Total Credits : 02 | Teaching Hours per Week: 02     | Theory | External 25 Marks |
|                    | Teaching Hours per semester: 30 |        | Internal 25 Marks |

**Course Objectives:**

1. to obtain quantitative information on the physical, chemical, and biological characteristics of water via statistical sampling
2. The type of information sought depends on the objectives of the monitoring program.

**Course Outcomes:**

1. Explain the general properties of water and understand water resources and water conservation.
2. Develop awareness about water quality criteria and standards, and their relation to public health and environment
3. Understand important parameters for measuring water quality.
4. Know about the methods for the determination of water quality parameters
5. Learn how to run accurate water quality tests and to determine how the parameters relate to each other.

| Unit | Topic                                                                                                                                                                                                                                                    | Credit | Hr |
|------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----|
| 1    | <b>Water Quality Fundamentals:</b><br>Chemistry of water, Physical and chemical properties, Water resources, water pollution, Important water Quality parameters and methods for their determination - turbidity, color, taste, pH, acidity, alkalinity, | 1      | 15 |

*Principal*  
The H.S.N.B. Ltd. Science College  
Himatnagar-383001, S.K.



|                    |                                                                                                                                                                                                                                                                                                                                                                                                      |   |    |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---|----|
|                    | chemical constituents, hardness, dissolved oxygen etc., water sampling, standard for drinking water as per BIS specifications, household water treatment and safe storage.<br><br><b>Water quality standards</b> in India, Industrial water quality standard in India, Water management. Water control Agency and Laws to monitor and enforce water quality standards in India, Water Pollution Act. |   |    |
| 2<br><i>H.K.P.</i> | <b>Laboratory tests for water quality monitoring:</b> <i>H.K.P.</i><br>Determination of pH and conductivity, Test for acidity and alkalinity, Test for total hardness, Test for chloride, calcium, iron etc., calculation of magnesium content and total solids. III. Project Quality assessment of water samples collected from different localities.                                               | 1 | 15 |

**Books Recommended:**

1. Subash. C Jain, International Marketing, 6th edition.
2. Varshney, R.L and Bhattacharya, B International marketing management and Indian perspective, Sultan chand and sons, New Delhi.
3. Kohler P, Keller K.L, Koshy A, Jha M, 13th edition 2009, Marketing Management- A South Africa Perspective, Pearson Education, New Delhi.

**Further Reading:**

4. Ramaswamy, V.S and Namakumari, S.; 4th edition Marketing Management –Global Perspective- Indian Content, McMillan Publishers India Ltd, New Delhi.
5. Saxena, Rajan, 3rd edition; Marketing management, Tata McGraw Hill Publishing Company Ltd, New Delhi.

*[Signature]*  
Principal  
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Himatnagar-383001, S.K.