



Dempo Charities Trust's
DHEMPE COLLEGE OF ARTS & SCIENCE
Miramar, Panaji-Goa

Determination of Physico-chemical and Microbiological parameters in drinking Water

CourseObjective:

To enable students to acquire knowledge and to estimate the different Physico-chemical and biological parameters in drinking water so as to determine whether water is hygienically safe and fit for consumption. Students are encouraged to bring water samples from their locality for analysis.

CourseContents:

- 1) Orientation course/ introduction to microbiological parameters of water.
 - 1.1 Water quality of drinking water
 - 1.2 Water quality standards
 - 1.3 Study of E.coli, Pseudomonas aeroginasa, and Salmonella Typhimurium
 - 1.4 Effect of micro-organisms on human health.(1.1,1.2-1hr and 1.3,1.4-1hr)

- 2) Microbiological techniques (practicals)
 - 2.1 Sterilization techniques-Autoclaving, drying of apparatus, making cotton plugs, Laminar air flow, traditional way b/w burner—6 hrs
 - 2.2 Preparation of nutrient broth, Agars-control and samples----7 hrs
 - 2.3 Inoculation of sample, incubation time and detection of presence---8 hrs

- 3)Introduction to chemical parameters of water:
 - 3.1 Sources of water supply
 - 3.2 Water standards for domestic use-physical characteristics such as turbidity, colour, and odour.
 - 3.3 Chemical characteristics such as pH, chlorides, hardness, phosphates, nitrates, total dissolved solids ,DO, total Fe content, Acidity, Alkalinity, sulphates, free CO₂ ,electrical conductivity.
 - 3.4 Aspects of water pollution.
 - 3.5 Treatment of water for domestic use.(3.1, 3.2, 3.3-----1 hr and 3.4, 3.5-1 hr)

4) Chemistry practicals:

4.1 –Determination of colour, odour, taste, pH, turbidity and total dissolved solids—2 hrs

4.2 Total Acidity, total Alkalinity, chlorides and free CO₂—2 hrs

4.3 Total hardness, calcium content, sulphates and nitrates —2 hrs

4.4 Total Fe content, total phosphorous —2 hrs

Course outcome: Students after completing this course gain adequate knowledge to conduct analysis of water samples in their locality to test the potability of water and thus serve the community in the larger interests.

References: ---

1)--Handbook of Water and waste water analysis by Kanwaljit Kaur

2)-Physico-Chemical Examination of water, sewage and Industrial effluents

by N. Manivasakam

21	Beena Chauhan									
22	Harshada pawar									
23	Vaibhavi Kalmekar									
24	Pooja Karmalkar									
25	Kritika Shirodkar									
26	Shrutika Naik									
27	Bhushana Naik									
28	Mahesh Lamani									
29	Shilpa Prasad									
30	Shivani Chari									
31	Akshata Naik									
32	Yogita Junjawadkar									

CS Camerer

04/05 1hr
 05/05 1hr
 06/05 1hr
 31/05 1hr
 31/05 1hr
 31/05 1hr
 31/05 1hr
 18/05
 18/05
 19/05
 Class: B.Y.BSc.
 Academic Year: 2018-19

Div. _____

Value added Course/Skill Based Course
 Determination of physicochemical param
 of water sample.

NAME	Roll No.	04/05	05/05	06/05	31/05	31/05	31/05	31/05	18/05	18/05	19/05
Shrutika Naik ✓	17098										
Aishwari Kalmakar ✓	17229										
Kritika Shirodkar ✓	17202										
Beena Chauhan ✓	17221										
Ajju Sutar ✓	13059										
Rashmi Sanjana Pednekar ✓	17050										
Eindiya Talbar ✓	17046										
Tanisha Mahale ✓	13053										
Shruti Dabholkar ✓	17064										
Manjira Pawar ✓	17061										
Shilpa Prasad ✓	17029										
Shivani Chari ✓	17004										
Pooja Karmalkar ✓	17209										
Doddaneni Faiza Anjani ✓	17129										
Simeen Mulla ✓	17095										
Aashita Almeida ✓	17320										
Melina S.L. Dias ✓	17321										
Kirti -Gaudal ✓	17089										
Narayan -Baith ✓	17082										
Mahesh Lamari ✓	17128										
Rish Ghorai ✓	17236										
Vaidika Mendes ✓	17251										
Akhala Naik ✓	17030										
Yagita Junjanwadkar ✓	17022										
Sanjana Ashutosh ✓	17001										
Bhushana Naik ✓	17060										
Tanisha Utkarish ✓	17047										
Harshada Pawar ✓	17123										
Somdha Sawant ✓	17040										
Shivani Chiplkar ✓	17058										
Pearl Aquino ✓	17044										

REMARKS

Handwritten signature and notes:
 Panjim
 SDC course



**Dempo Charities Trust's
Dhempe College of Arts and Science
Panaji, Goa**

Department Of Chemistry

Report of the long term non-conventional course entitled “**Determination of physicochemical and microbiological parameters in drinking waters**” for the academic year 2018-19.

The department of chemistry conducted a long term integrated (faculty of Chemistry and Bio-technology) value added non-conventional course entitled “Determination of physicochemical and microbiological parameters in drinking waters” for SY BSC students.

Duration of the course is of 33 hours which comprises of 4 sessions of lectures of one hour each and 29 hours of practical sessions. The intake capacity for the course is 25 students with a fee of Rs 1000/- per student. This year 33 students were enrolled for the course .

The course syllabus includes introduction to microbiological and physico- chemical parameters of drinking water, in addition there are practical sessions of determination of microbiological as well as physical and chemical parameters of drinking waters Course objective is to equip students with practical knowledge of determination of water quality to qualify whether water is hygienically safe and fit for consumption.

The course commenced on 12th march in the Bio-Technology Laboratory for analysis of water samples for micobiological parameters and ended on 20th march 2019

The students then did practical sessions in Chemistry Laboratory for analysis of physical and chemical parameters of drinking waters on 4th May2019



Department Of Chemistry

A 40 hour Summer course in Analytical Tools was organized between 6th and 9th may 2018. Co-ordinated by Principal Dr Vrindaborker, this course featured Dr Brenda Mascarenhas and scientists from NIO as resource persons and benefitted 33 participating students as they were able to gain adequate knowledge to operate instruments like XRD, XRFS SEM and conduct magnetic studies of samples.