

GIRRAJ GOVERNMENT COLLEGE(A),NIZAMABAD
DEPARTMENT OF CHEMISTRY
CERTIFICATE COURSE IN WATER ANALYSIS
(VIRTUAL MODE)

Department of Chemistry, Tara Government College, Sangareddy (A) in collaboration with Department of Chemistry, Girraj Government (A) College, Nizamabad and EDC, Tara Government College, Sangareddy (A) have conducted certificate course on “**CERTIFICATE COURSE IN WATER ANALYSIS (VIRTUAL MODE)**“ from **07.04.2021** to **16.04.2021**. **Faculty from three different colleges have been** acted as resource person for the Certificate course. A cloud-based peer-to-peer software platform, Zoom was used for the Certificate course. The course is designed to cement the Skill gap between academia and industry. The main objective of the certificate course is to impart Skill development and employability to the students, and 400+ students of various institutes were enrolled in the certificate course. The structure of the certificate course drafted to fulfill the needs of Water and Beverage industries which are located in the Sangareddy and Patancheru industrial corridor like the Global giants Pepsi and Cocacola. This Certificate course is designed for BSc.(CHEMISTRY) students.

Convener of the Certificate Course: Dr. Md. Abdur Rafeeq, *Head, Department of Chemistry, Girraj Government (A) College, Nizamabad.*

Co-convener of Certificate Course: K.Abhijit, *Head, Department of Chemistry, Tara Government College, Sangareddy (A).*

Coordinator of the Certificate Course: Dr. M. Sunitha, *Department of Chemistry, Girraj Government (A) College, Nizamabad.*

OBJECTIVES OF THE COURSE:

- **To assess water quality using different analytical Techniques.**
- **To create an awareness on water conservation and water harvesting.**
- **To provide awareness on the impact of water and water related issues in an environmental and social context.**
- **To focus on imparting employability among the students.**

LEARNING OUTCOMES:

- Students should be able to handle the water analysis procedures using various techniques and experiments.
- Should have necessary knowledge on water resource management.
- An ability to identify, formulate and solve environmental problems.

COURSE STRUCTURE:

This course examines the current approaches to water quality Analysis. Topics covered in the course include water quality Analysis along with water quality standards of drinking water and its analysis. The course structure is designed to meet the essential employability skills for a water-chemical analyst.

SYLLABUS OF THE COURSE:

1. **WATER CHEMISTRY:** Elements, radicals, and compounds Chemical water analysis, pH calculations, Gas solubility, Alkalinity, Colloids and coagulation Organic compounds Organic matter in wastewater, Laboratory chemical analyses.
2. **PHYSICO-CHEMICAL PARAMETERS OF WATER:** Characteristics of drinking water, Chemical composition of Drinking water, Chemical quality of drinking water, Water quality standards, Microbiological quality of drinking water.
3. **WATER MICROBIOLOGY:** Microbial analysis of water samples, waterborne diseases, Tests for the coliform group testing for enteric viruses, Biochemical oxygen demand Biological treatment systems.
4. **WATER POLLUTION:** Concept of water-pollution, potential Water Pollutants, impact of industrial effluents on water pollution.
5. **WATER TREATMENT:** Domestic and municipal water treatments, RO-systems, natural methods of water treatments.

CLASSES SCHEDULE:

Schedule	Mode of teaching	Hours required
Day-1 to Day-5	Theory Classes	10h
Day-6 to Day-7	Practical Demonstration	04h
Day-8	Online assessment	01h

Details of contributors of the Programme:

COURSE CONVENER

Dr. Md.Abdur Rafeeq

Vice-Principal & Head,
Department of Chemistry
Girraj Govt.College (A) ,Nizamabad.

COURSE CO-CONVENER

K.Abhijit

Head, Department of Chemistry
Tara Govt.College, Sangareddy (A)
Sangareddy.

COURSE COORDINATOR

Dr. M.Sunitha

Asst. Professor of Chemistry
Girraj Govt.College (A) ,Nizamabad.

FACULTY PANEL OF CERTIFICATE COURSE:

- 1. Dr. Md.Abdur Rafeeq**, Vice-Principal & Head, Department of Chemistry, Girraj Govt.College(A), Nizamabad.
- 2. Dr. M.Sunitha**, Asst. Professor, Department of Chemistry, Girraj Govt.College(A),Nizamabad.
- 3. K.Abhijit**, Head, Department of Chemistry, Tara Govt.College, Sangareddy(A), Sangareddy.
- 4. Dr.A.Dayanand**, Assistant Professor of Chemistry, Government City College, Hyderabad.
- 5. M.Srinivasa Rao**, Assistant Professor of Microbiology, BRR Govt. Degree College, Jadcherla.

TOPIC WISE COURSE SCHEDULE:

S.No.	Date	Day	Topic Covered	Resource Person
1	07.04.2021	Day-1	Elements, radicals, and compounds Chemical water analysis, pH calculations, Gas solubility, Alkalinity, Colloids and coagulation of Organic compounds, Organic matter in waste water, Laboratory chemical analyses	Dr. Md.Abdur Rafeeq
2	08.04.2021	Day-2	Water Chemistry, Concept of water-pollution, potential Water Pollutants, impact of industrial effluents on water pollution.	Dr.A.Dayanand
3	09.04.2021	Day-3	Microbial analysis of water samples, waterborne diseases, Tests for the coliform group, testing for enteric viruses, Biochemical oxygen demand, Biological treatment systems	M.Srinivasa Rao
4	10.04.2021	Day-4	Domestic and municipal water treatments, RO-systems, Natural methods of water treatments.	K.Abhijit
5	11.04.2021	Day-5	Characteristics of drinking water, Chemical composition of Drinking water, Chemical quality of drinking water, Water quality standards, Microbiological quality of drinking water, Analysis of physic-chemical parameters of water	Dr. M.Sunitha

6	12.04.2021	Day-6	Practical Demonstration on Analysis of physic-chemical parameters of water	Dr. M.Sunitha
7	15.04.2021	Day-7	ONLINE TEST	
8	16.04.2021	Day-8	Water Pollution, Preventive measure and role of Youth	Dr. M.Sunitha
Valedictory Session				

ON LINE TEST

Certificate Course in Water Analysis - Online Test - 15-04- 2021

Organized by :

Department of Chemistry, GIRRAJ
GOVERNMENT COLLEGE (A), NIZAMABAD

in Collaboration with

Department of Chemistry, TARA GOVERNMENT
COLLEGE, SANGAREDDY (A)



* Required

Name *

Your answer

Class / Designation *

Your answer



Institution *

Your answer

1Q. Chemical treatment of water involves 1 point

- ☐ Sedimentation
- ☐ Coagulation
- ☐ Disinfection
- ☐ Filtration

2Q. Process used in treatment of Saline water 1 point

- ☐ Coagulation
- ☐ Reverse Osmosis
- ☐ Slow sand Filtration
- ☐ Pre-Chlorination

3Q. Unit processes in the constituent major dissolved organics is

1 point

- ☐ Flocculation
- ☐ Sedimentation
- ☐ Filtration
- ☐ Adsorption

4Q. In removal of microbial pathogens reactive chemical agents used are

1 point

- ☐ Dissolved Solids
- ☒ Suspended Solids
- ☐ Iron
- ☐ Manganese

Clear selection

5Q. The process that improves the quality of water to make it appropriate for a specific end-use is 1 point

- ☐ Water Treatment
- ☐ Water Analysis
- ☐ Water Quality
- ☐ Water Conservation

6Q. Example of Water-Washed Disease 1 point

- ☐ Typhoid
- ☐ Trachoma
- ☐ Filariasis
- ☐ Cholera

7Q. Epidemic diarrhea causing pathogens

1 point

- ☐ Vibrio Cholera
- ☐ E. Coli
- ☐ Pseudomonas Aeruginosa
- ☐ Entamoeba histolica

8Q. Bacterial Disease caused by ingestion with water contaminated with urine of infected animals is

1 point

- ☐ Legionellosis
- ☐ Hepatitis
- ☐ Leptospirosis
- ☐ Trachoma

9Q. In Trachoma, bacteria inflames _____ part of the body 1 point

- ☐ Skin
- ☐ Eye
- ☐ Nose
- ☐ Mouth

10Q. Loiasis is caused by 1 point

- ☐ Trypanosoma bruce
- ☐ Leishmania
- ☐ Loa loa
- ☐ Onchocerca Volvulus

11Q. World water day is celebrated every year on 1 point

- ☐ March 20
- ☐ March 21
- ☐ March 22
- ☐ March 23



12Q. The measure of the impact our activities have on the environment is 1 point

- ☐ Carbon footprint
- ☐ Water footprint
- ☐ Ecological Footprint
- ☐ None

13Q. Water needed in importing countries for production is 1 point

- ☐ Real water
- ☐ Virtual Water
- ☐ Blue Water
- ☐ Grey Water

14Q. How much water does it take to make 1 cup of Tea 1 point

- ☐ 5 Liters
- ☐ 140 Liters
- ☐ 30 Liters
- ☐ 1 Liter

15Q. Calcium requirement in infants and children is 1 point

- ☐ 700 mg/day
- ☐ 350-550 mg/day
- ☐ 800-1000 mg/day
- ☐ 1200 mg/day

16Q. In RO water calcium levels are less than _____ ppm 1 point

- ☐ 50
- ☐ 60
- ☐ 80
- ☐ 70

17Q. How much water does it take to make 1 glass Apple Juice 1 point

- ☐ 900 Liters
- ☐ 190 Liters
- ☐ 70 Liters
- ☐ 170 Liters

18Q. Rainwater stored in soils is referred as

1 point

- ☐ Blue Water
- ☐ Grey Water
- ☐ Green Water
- ☐ Virtual Water

19Q. Water Quality is generally measured by how many parameters

1 point

- ☐ 3
- ☐ 4
- ☐ 2
- ☐ 5

20Q. Identify the chemical parameters

1 point

- ☐ Ph
- ☐ BOD
- ☐ E-Coil Form
- ☐ Alpha Emitters

21Q. The value of Dissolved Oxygen should be _____

1 point

- ☐ 5.0 mg/lit
- ☐ 8.0 mg/lit
- ☐ 7.0 mg/lit
- ☐ 6.0 mg/lit

22Q. Reason for Aquatic animal decay is

1 point

- ☐ Fluorides
- ☐ Chlorides
- ☐ Nitrates
- ☐ Less DO

23Q. Temporary hardness of water is due to

1 point

- ☐ Chlorides & Sulphates of Mg&Ca
- ☐ Bicarbonates of Mg&Ca
- ☐ Fluorides of Mg&Ca
- ☐ None of the above

24Q. Which of the following rivers is 1 point
called the India's most polluted
river

- ☐ Ganga River
- ☐ Chenab River
- ☐ Cauvery River
- ☐ Yamuna River

25Q. Which of the following are the 1 point
primary causes of water pollution

- ☒ Plants
- ☐ Animals
- ☐ Human Activities
- ☐ None of the Above

Clear selection

Submit

Clear form

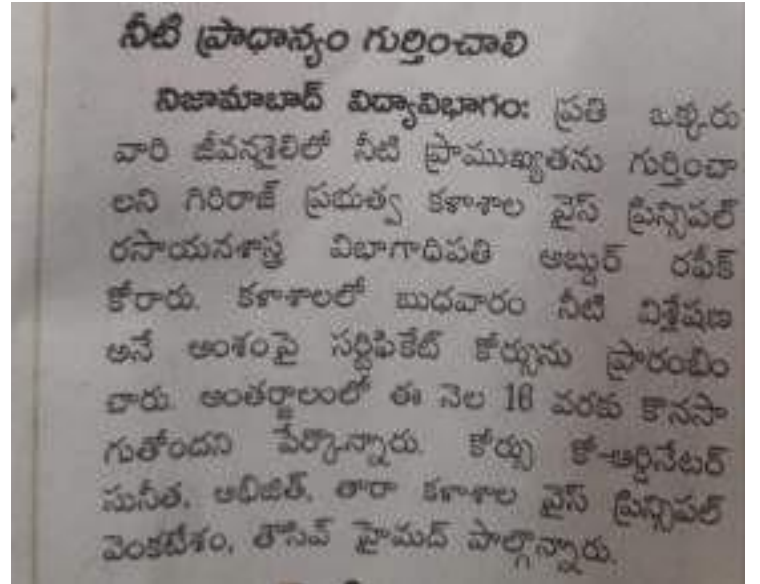


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PRESS COVERAGE



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Namaste Telangana

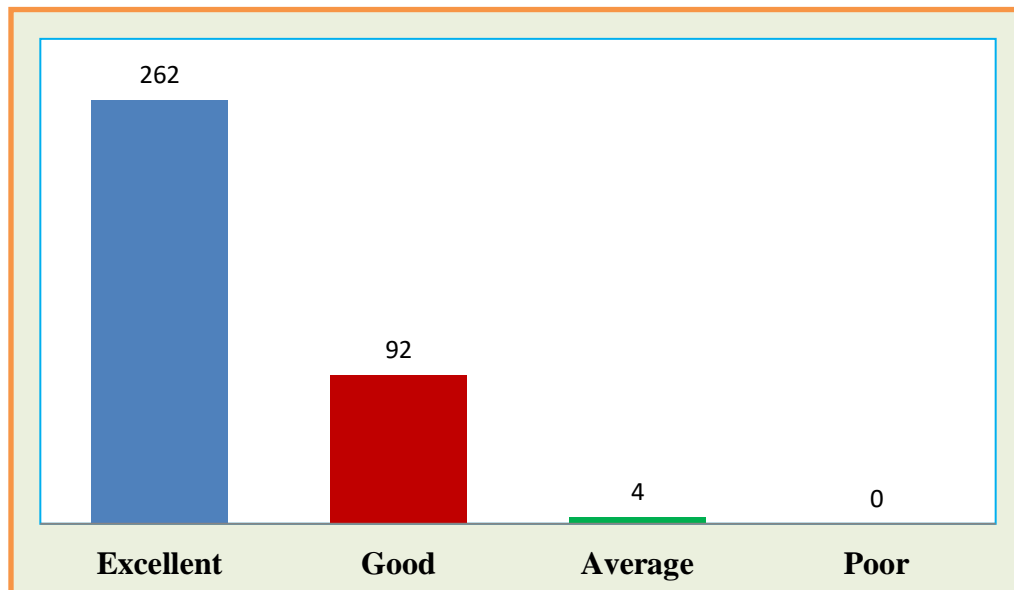


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SAKSHI TELUGU DAILY



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FEED-BACK ANALYSIS:





GIRRAJ GOVERNMENT COLLEGE(A)
Nizamabad, Telangana.
NAAC Re-Accredited with 'B' grade



Certificate Course on Water Analysis(Virtual Mode)
Organized by
Department of Chemistry

CERTIFICATE

This is to certify that **PERUMANDLA RAMU** of **GIRRAJ GOVERNMENT COLLEGE (A),NZB** has participated in Certificate course on Water Analysis(Virtual Mode) Organised by Department of Chemistry Girraj Government College(A), Nizamabad in collaboration with Department of Chemistry, Tara Government College Sangareddy (A), from 07-04-2021 to 16-04-2021

 Convener Dr. Md.Abdur Rafeeq HOD, Chemistry	 Course Coordinator Dr.M.Sunitha Asst.prof of Chemistry	 Co-Convenor K.Abhijit HOD, Chemistry	 Smt.M.Praveena Principal Tara Govt College Sangareddy(A)	 Dr.E.Laxminarayana Principal Girraj Govt. College(A) Nizamabad
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