

**CERTIFICATE COURSE  
WATER QUALITY ASSESSMENT(WQA)**

**DEPARTMENT OF CHEMISTRY  
Dr. V.S.Krishna Govt.Degree and PG College (A), Visakhapatnam -AP**

Year of establishment: 2022

Course Duration: 30 hours

Course Co-ordinator: Dr. G. Lakshmana Rao

Course Fee: Rs. 250/-

Seat Availability: 30

**Course Description**

Since quality of water is susceptible to changes with time and other factors, continuous monitoring of water is essential. Water quality assessment provides the base line information on water safety. Qualitative and quantitative measurements are needed to guarantee the purity of water from various sources of supply. This course on water quality assessment is an attempt to equip students with theoretical background and practical skills to participate in water quality ensuring practices.

**Aim of the course**

To prepare the students in acquiring skills on qualitative and quantitative analysis of critical water quality parameters.

**Learning Objectives**

At the end of the course the student will be able to:

- Explain the general characters of water and understand water resources and water Conservation.
- Develop awareness about water quality criteria and standards, and their relation to public health and environment

- Understand important parameters for measuring water quality.
- Know about the methods for the determination of water quality parameters

### **Course Outcomes**

- the student acquires the knowledge on quality of water and its significance
- the student performs different tests to check the quality of a water sample
- the student extends service to the society in educating the people through his acquired knowledge on quality of water.

### **Syllabus**

#### **Theory (20 hours )**

##### **Module I. Water Quality Fundamentals (6hours)**

Chemistry of water, Physical and chemical properties, Water resources, water pollution,

##### **Module II. Water quality parameters theoretical aspects (4hours)**

Important water Quality parameters turbidity, color, pH, acidity, alkalinity chemical constituents.

##### **Module III. Methods of determination of water quality –Physical parameters (4hours)**

Methods for their determination - turbidity, color, pH, acidity, alkalinity

##### **Module IV. Methods of determination of water quality –Chemical parameters (4hours)**

Chemical constituents, hardness, dissolved oxygen etc., water sampling, standard for drinking water as per BIS specifications

##### **Module V. (2hours)**

Household water treatment and safe storage.

#### **II. Practical - Laboratory tests for water quality monitoring (10 hours)**

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.

**CERTIFICATE COURSE**  
**Water Quality Assessment**  
**(Question Paper)**

Time: 90 mins

max marks: 40

**SECTION-A**

**Answer any FOUR questions. Each question carries 4 Marks. 4X  
4=16**

1. What is PH and and what is the PH of rain water?
2. Write any Four physical properties of water?
3. What are the Chemical constituents of water?
4. What is turbidity. Explain
5. What is alkalinity. Explain.
6. What is temporary hardness of water. How is it removed.
7. What is D.O. what is its significance.

**SECTION-B**

**Answer any THREE questions. Each question carries 8  
Marks. 3X8=24**

8. Write about the sources of water in India.
9. How do you determine PH and conductivity of water. Explain.
10. What is Permanent hardness of water. Explain the methods for removal of permanent hardness from water
11. Write the procedure for treatment of house hold water.

S.No	Name of the Student	Class	Gender	Date		
				3/3/23	4/3/23	6/3/23
1	G. Srinivas	11 MPC	M	P	P	P
2	G. Sai	11 MPC	M	P	P	P
3	N. Rahul	11 MPC	M	P	P	P
4	G. Siddu	11 MPC	M	P	P	P
5	K. Avinash	11 MPC	M	P	P	P
6	K. Manikentha	11 MPC	M	P	P	P
7	S. Sai	11 MPC	M	P	P	P
8	Ch. Uday	11 MPC	M	P	P	P
9	S. Simhechalam	11 MPC	M	P	P	P
10	B. Satish	11 MPC	M	P	P	P
11	K. Rajesh	11 MPC	M	P	P	P
12	K. Ramaraju	11 MPC	M	P	P	P
13	M. Atchyuth	11 MPC	M	P	P	P
14	M. Venkatesh	11 MPC	M	P	P	P
15	M. Govinda Rao	11 MPC	M	P	P	P
16	L. Vikas	11 MPC	M	P	P	P
17	P. Pavan Kumar	11 MPC	M	P	A	P
18	J. Vamsi	11 MPC	M	P	P	P
19	S. Jyothi	11 MPC	F	P	P	P
20	V. Venkata Ramana	11 MPC	M	P	A	P
21	G. Divya Krupa	11 MPC	F	A	P	P
22	P. Sailaja	11 MPC	F	P	P	P
23	P. Sirisha	11 MPC	F	P	P	P
24	S. Bhargavi	11 MPC	F	P	P	P
25	R. Kotewara Res	11 MPC	M	P	P	P
				P	P	P



Name of the Student	Class	Gender	3/3/23	4/3/23	6/3/23	7/3/23	9/3/23	10/3/23	13/3/23	14/3/23	15/3/23	16/3/23	17/3/23	18/3/23	20/3/23
26 V. Simon	11 MPC	M	P	P	A	P	A	P	P	P	P	P	A	P	P
25 P. Srathi Kumari	11 MPC	F	P	P	A	P	A	P	P	P	P	P	P	P	P
27 K. Divya	11 MPC	F	P	P	P	P	P	P	P	P	P	P	P	P	P
28 M. Priyanka	11 MPC	F	P	P	P	P	P	P	P	P	P	P	P	P	P
29 V. Sureshram	11 MPC	F	P	P	P	P	P	P	P	P	P	P	P	P	P
30 T. Sirisha	11 MPC	F	P	P	P	P	P	P	P	P	P	P	P	P	P

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# Dr. V. S. Krishna Govt. Degree College (A)

(NAAC ACCREDITED 'A' GRADE INSTITUTION & NODAL RESOURCE CENTRE)  
MADDILAPALEM, VISAKHAPATNAM-530013. ANDHRA PRADESH



## Value Added Course Certificate

2022 to 2023

This is to certify that Mr./Miss S. Simhakulam of  
II MPC has successfully completed the Value Added Course in value quality Assessment  
with Regd No.....Organized by the Department of Chemistry in  
collaboration with.....during year 2022 to 2023 He/She has passed the course with  
A grade.

  
**Academic  
Coordinator**

  
**IQAC  
Coordinator**

  
**Course  
Coordinator**



  
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## Value Added Course Certificate

2022. to 2023

This is to certify that Mr./Miss

**B. Satish**

..... **11 mpe** ..... has successfully completed the Value Added Course in **Master quality account**

with Regd No..... Organized by the Department of **Chemistry** .....

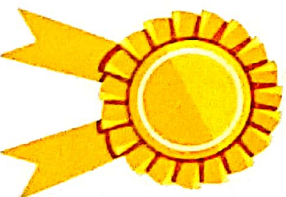
collaboration with..... during year **2022** to **2023** He/She has passed the course with

..... **A** ..... grade.

  
Academic  
Coordinator

  
IQAC  
Coordinator

  
Course  
Coordinator



  
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**Value Added Course Certificate**

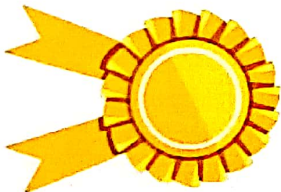
**202... to 202....**

This is to certify that Mr./Miss **K. Manikanta**.....  
 .....**II MPE**.....has successfully completed the Value Added Course in **under Quality Assessment**  
 with Regd No.....Organized by the Department of **Chemistry**.....  
 collaboration with.....during year 202..... to 202..... He/She has passed the course with  
 .....grade.

**Academic**   
**Coordinator**

**IQAC**   
**Coordinator**

**Course**   
**Coordinator**



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**PRINCIPAL**



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## Value Added Course Certificate

2022 to 2023

This is to certify that Mr./Miss S. Sai of  
II MPE has successfully completed the Value Added Course in Water quality monitor  
 with Regd No..... Organized by the Department of Chemistry in  
 collaboration with..... during year 2022 to 2023 He/She has passed the course with  
A grade.

  
**Academic  
 Coordinator**

  
**IQAC  
 Coordinator**

  
**Course  
 Coordinator**



  
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 Dr. V.S. Krishna Govt. Degree College (A)