

**Shri Shivaji Education Society's
Board for Higher Education Vidyanagar Karad.**



YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

DEPARTMENT OF POLLUTION

SHORT TERM COURSE

WATER QUALITY ASSESSMENT

2022-23

COURSE CODE-CCE-25

Index

Total Students: 20

Class: B.Sc. II & III

Duration: 03 Months

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Principal,
Yashwantrao Chavan College
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Estd. 1958

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Shri Shivaji Education Society Karad, Board For Higher Education's

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

Vidyanagar, KARAD - 415 124 Dist. Satara (Maharashtra)

☎ 02164 - 271356, 271357 Fax : 02164-271356, e-mail : prinyccsk@gmail.com

Reaccredited B++ Level by NAAC, Bangalore

AN ISO 9001-2015 CERTIFIED COLLEGE REG. NO. : RQ91/5237

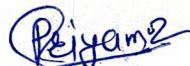
DEPARTMENT OF POLLUTION

Year 2022-23

Syllabus Approved Letter


The IQAC Committee has approved the syllabus of the certificate course to be conducted by the Department of Pollution.

Sr. NO.	Name of The Course	Type of the Course
1.	Water Quality Assessment	Certificate Course


Course co-Ordinator


Co-ordinator,
Internal Quality Assurance Cell (IQAC),
Yashwantrao Chavan College
of Science, Karad




Principal
Principal,
Yashwantrao Chavan College
of Science, Karad

Yashwantrao Chavan College of Science, Karad

Department of Pollution

Syllabus -Certificate course

B.Sc. – II & III

Implemented from the Academic Year 2022-23

Course Title: Water Quality Assessment

course code- CCE-25

Preamble

Water quality assessment provides the base line information on water safety for various purposes in day to day life. 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.

Course Objectives

- Acquiring and application skills on the are important for water quality management and pollution control. art of water monitoring and quantitative analysis of critical different water quality parameters.
- It also brings in those aspects of physico-chemical parameters which

Course Outcomes

At the end of the course target Students should able to

- To enhance the practical knowledge and motivation for self-employment ability in students.
- Illustrate the physic-chemical properties of water.

Total Allotted lectures =

For Theory: 20 Lectures of 50 Min. (15Hrs.) & Practical's 10 of 1 ½ Hrs. (15 Hrs.).

Theory


Unit	Content	Lectures
Unit 1	Water Quality Fundamentals Chemistry of water, Structure and general Physical properties, Water recourses, water pollution, household water treatment and safe storage.	06
Unit 2	Water Quality Parameters and Analysis Significance of water Quality parameters and methods for their analysis –turbidity, color, taste, pH, EC, acidity, alkalinity, chemical constituents, hardness, dissolved, oxygen, BOD, COD etc. Standard water sampling methods standard for drinking water as per BIS specifications.	09
Total Lectures		15

Practical's

Sr.	Content	Lectures
1.	Determination of pH of water sample.	01
2.	Determination of EC of water sample	02
3.	Determination of acidity in water sample	02
4.	Determination of acidity in water sample	02
5.	Determination of total alkalinity of water sample	02
6.	Determination of total hardness of water.	02
7.	Determination of chlorides in water sample	02
8.	Determination of total solids (TDS) in water sample.	02
Total		15

Reference Books: -

- 1) Water Quality & Treatment: A Handbook on Drinking Water, 6th Edition by James Edwald
- 2) Handbook of Water and wastewater Analysis by Kanwaljit Kaur.
- 3) Chemical and Biological Methods for Pollution Studies by P.K.Goel
- 4) Drinking Water Quality Assessment and Management By S.K.Gupta


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THEROY EXAMINATION

Yashwantrao Chavan College of Science, Karad

Department of pollution

course code- CCE-25

Certificate Course in Water Quality Assessment

Total Marks: 50

Exam Duration: 1.5 Hours

Q.1. Select the correct alternative: (25 MCQ questions, each carry 2 Makes.)

1.

a)

b)

c)

d)

2.

a)

b)

c)

d)



A handwritten signature in blue ink, appearing to be "J. M. Chavan".

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PRACTICAL EXAMINATION

Yashwantrao Chavan College of Science, Karad

Department of pollution

course code - CCE-25

Certificate Course in Water Quality Assessment

Total Marks: 30

Exam Duration: 2 Hours

Experiment Title

A) Carryout the any one experiment from the following and write the Aim, Observation, Result and conclusion.

I).....OR

20 Marks

II).....OR

III).....

B) ORAL

10 MARKS




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NOTICE


01/11/2021

The Department of **Pollution** is going to be offering a certificate course entitled in **Water Quality Assessment** to B.Sc. II and B.Sc. III students.

This course is helpful for understanding the concepts with theoretical background practical skills to participate in water quality ensuring practices. . Those candidates interested in this course should register their names to **Miss P. A.Patil** (Course Coordinator) on before **05 Dec. 2022**.


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Head
Department of Pollution
Yashwantrao Chavan College of
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Department of Pollution

Certificate course in

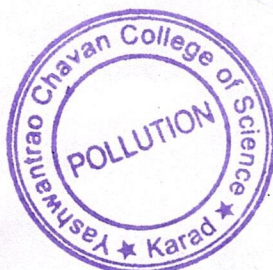
“Water Quality Assessment”

Year 2022-23

course code - CCE-25

Name of the Enrolled Students

Roll No.	Name of Student	Class	Signature
1	Thorat Niranjana Santosh	B.Sc. II	T.N.S
2	Thorat Rohit Anil	B.Sc. II	Rohit
3	Thorat Shridher Ashok	B.Sc. II	SA
4	Thorat Suraj Mohan	B.Sc. II	Isuraj
5	Thorat Yogesh Balkrishna	B.Sc. II	Y.B.T
6	Tupe Tusher Tanaji	B.Sc. II	Trupe
7	Waske Mahesh Satish	B.Sc. II	W.M.S
8	Shinde Krinajia Vijay	B.Sc. II	kshinde
9	Shinde Samiksha Prakash	B.Sc. II	S.P.S
10	Veer Rohini Shantram	B.Sc. II	Veerr
11	Wadkar Savira Balasaheb	B.Sc. II	W.S.B
12	Yadev Dipali Dilip	B.Sc. II	Dipali
13	Yadav Mohini Mansing	B.Sc. II	Y.M.M
14	Yadav Neha Vilas	B.Sc. II	N.V.J
15	Yadav Rohan Jaywant	B.Sc. II	R.J.Y.
16	Yewa Shubhamamraj Sanjay	B.Sc. II	YSS
17	Bhosale Aniket Hanmant	B.Sc. II	AD
18	Desai Pratik Santosh	B.Sc. II	D.P.S
19	Girigosavi Nikita Sanjay	B.Sc. III	G.N.S
20	Kadam Yogesh Ananda	B.Sc. II	KYA



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Department of Pollution

Certificate Course

“Water Quality Assessment”

Year 2022-23

Theory & Practical Time Table

Dec. 2022 to Feb.2023


All the registered students of the short -term course “Water Quality Assessment” are informed that the course will start on December 9,2022 Ms. P.A.Patil will conduct theory and practical sessions. All should note and follow.

Theory Time Table

Lect. Time	Friday	Saturday
9.00 – 10.15	PAP	PAP

Practical Time Table

Lect. Time	Thursday
8.30 – 10.00	PAP


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Department of Pollution
Short Term Course- water Quality Analysis (CCCF-25)
Mid-Course Exam (2022-2023)

Date: 20/01/23

Time: 9:30 AM-10:30 AM

Marks: 20

Instructions:

- 1) All questions are compulsory.
- 2) Each question carry 2 marks.

Q. Choose the Correct Alternatives.

1. From the following which is not present in hard water?
 - a) Carbonates of calcium
 - b) Bicarbonates
 - c) Magnesium
 - d) Sulphate
2. In comparison to pure water, boiling point of impure water is
 - a) Same
 - b) Increases
 - c) Decreases
 - d) First decreases then increases
3. Reason of water pollution is
 - a) Pesticides
 - b) Human activity
 - c) Population activity
 - d) All the above
4. Turbidity is measured by
 - a) Turbidity meter
 - b) Turbidity scale
 - c) pH meter
 - d) Rota meter
5. Dissolved Solids are measures by which of the following?
 - a) Turbidity rod
 - b) Gravimetric method

- c) Chromatography
- d) Jackson's turbidity meter

6. Permissible limit of the turbidity parameter for drinking purpose is
 - a) 5-10 NTU
 - b) 1-5 NTU
 - c) 10-50 NTU
 - d) 10-30NTU
7. As per IS 10500 :2012 , the permissible limit of total dissolved solids (TDS) (in mg/l) in drinking water in the absence of an alternate source is :
 - a) 1000
 - b) 500
 - c) 200
 - d) 2000
8. As per IS 10500 :2012 , the permissible limit of total dissolved solids (TDS) (in mg/l) in drinking water in the absence of an alternate source is :
 - a) 1000
 - b) 500
 - c) 200
 - d) 2000
9. Temporary hardness in water is due to -----
 - a) OH^-
 - b) CO_3^{2-}
 - c) H^+
 - d) HCO_3^-
10. Alkalinity is measures of the ability of water to neutralize the acids :
 - a) True
 - b) False
 - c) Non of a and b
 - d) Both a and b




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Short Term Course: Water Quality Assessment

Notice – Examination

All the registered students of the short-term course “Disaster Management” are informed that as per discussed question paper patterns the examinations of the course is on theory 23/03/2023 and practical on 24/03/2023. The time table of the examination is as follows.


Theory: 23/03/2023: 9:30 am to 11:00 am

Practical: 24/03/2023: 9:00 am to 11:00 am

All should note and follow.


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Department of Pollution
Short Term Course- water Quality Analysis (CCF-25)

Final Exam (2022-2023)

Date: 23 /03/20 23

Marks: 50

Time: 9:30 AM-11:00 AM

Instructions:

1) All questions are compulsory.

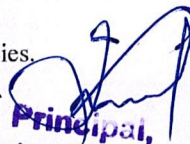
2) Each question carry 2 marks.

1. Permanent hardness to water is caused by the presence of the dissolved salt of -----
 - a) Bicarbonate of Ca & Mg
 - b) Dissolved gaseous impurities
 - c) Chlorides & Sulphates of Ca and Mg
 - d) Suspended Particles
2. EDTA is ----- acetic acid
 - a) Ethylene diamine tetra
 - b) Ethylene triamine tetra
 - c) Ethylene diamine
 - d) Na Ethylene diamine
3. ----- is used to determine hardness by EDTA method
 - a) Starch
 - b) EBT
 - c) Methyl Orange
 - d) Potassium Chromate
4. Total Dissolved Solids consists of cations only
 - a) True
 - b) False
 - c) Non of a and b
 - d) All the above
5. Total Dissolved Solids consists of cations only
 - a) True

- b) False
- c) Non of a and b
- d) All the above

6. What is the Standard limit for Hardness
 - a) 100 mg/l
 - b) 400 mg/l
 - c) 300 mg/l
 - d) 600 mg/l
7. What is the fullform of NTU in context with turbidity
 - a) Number of transfer unit
 - b) Neurological turbidity unit
 - c) Nephelometric Turbidity unit
 - d) Network terminal unit
8. Which of the following statement is wrong regarding the turbidity
 - a) It is an extent to which light is absorbed by particles in the water
 - b) It is expressed in ppm
 - c) It depends on the fineness of particles present in the water
 - d) Turbidity rod is laboratory method to measures turbidity.
9. When the depth of insertion of turbidity rod is increases, the reading in the turbidity rod -----
 - a) Decreases
 - b) Increases
 - c) First Decreases then increases
 - d) Remains constant
10. If you measures the pH of a lake and find it to be 5.5 what can you conclude about the lakes water based on this pH value
 - a) It is extremely acidic and unsafe for aquatic life.
 - b) It is slightly acidic and suitable for most fish species.
 - c) It is perfectly natural and ideal for drinking water.
 - d) It is slightly basic and conducive to the growth of certain algae
11. If you measures the pH of a lake and find it to be 5.5 what can you conclude about the lakes water based on this pH value
 - a) It is extremely acidic and unsafe for aquatic life.
 - b) It is slightly acidic and suitable for most fish species.
 - c) It is perfectly natural and ideal for drinking water.




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d) None of the above

12. What is the health effects of excess fluoride in drinking water?

- (a) Fluorosis
- (b) Toothaches
- (c) Lung disease
- (d) Intestinal infection

13 The full form of BOD is

- a. Biological Oxygen Demand
- b. Biometric Oxygen Demand
- c. Biochemical Oxygen Demand
- d. Biological Oxygen Deep Water

14) Which of the following represents the physical characteristics of water?

- a) Chloride
- b) BOD
- c) Turbidity
- d) COD

15) _____ of water also changes with temperature.

- a) Odour
- b) Colour
- c) Temperature
- d) Taste

16) _____ in a water sample can be directly determined by evaporating the water and weighing the residue

- a) Hardness
- b) Total Solids
- c) Chloride
- d) Iron

17) The permissible limit of pH preferred for potable water is ____ ppm.

- a) 6.5-9
- b) 7-8.5
- c) 10-14
- d) 0-7

18) What is the concentration of H^+ ions in moles/L in water if the pOH value is 6?

- a) 10^{-6}
- b) 10^{-7}
- c) 10^{-8}
- d) 10^{-9}

19) Suspended solids are measured by which of the following?

- a) Turbidity rod
- b) Gravimetric test
- c) Chromatography
- d) Jackson's turbidity meter

23) Threshold odour number testing is preferred in hot exceed

21) The permissible limit of turbidity of domestic water is ____ ppm.

- a) 5-10
- b) 1-5
- c) 10-50
- d) 10-30

24) Chlorides are estimated by titration with a standard silver nitrate solution by using _____ as an indicator.



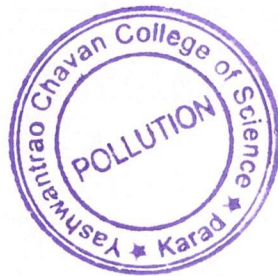

Principal,


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B. Chief secretary

C. BDO

D. None of the above




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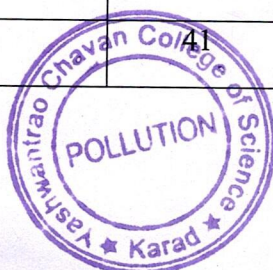
Department of Pollution

Short term Course –Water Quality Assessment (2022-23)

course code- CCE- 25

Mark list

Roll. No.	Name of Student	Internal exam (Out of 20)	Externall Exam (Out of 50+30)	Total (Out of 100)
1	Thorat Niranjana Santosh	38	44	82
2	Thorat Rohit Anil	44	38	82
3	Thorat Shridher Ashok	42	40	82
4	Thorat Suraj Mohan	42	48	90
5	Thorat Yogesh Balkrishna	36	44	80
6	Tupe Tusher Tanaji	46	42	88
7	Waske Mahesh Satish	42	40	82
8	Shinde Krinajia Vijay	42	48	90
9	Shinde Samiksha Prakash	42	42	82
10	Veer Rohini Shantram	42	42	84
11	Wadkar Savira Balasaheb	42	40	82
12	Yadev Dipali Dilip	38	44	82
13	YadavMohini Mansing	42	28	70
14	Yadav Neha Vilas	44	40	84
15	Yadav Rohan Jaywant	40	44	84
16	Yewa Shubhamamraj Sanjay	42	41	80
17	Bhosale Aniket Hanmant	42	45	93
18	Desai Pratik Santosh	42	41	81
19	Girigosavi Nikita Sanjay	35	42	84
20	Kadam Yogesh Ananda	41	27	72



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Short term Course – Water Quality Assessment (2022-23)

CO & PO attainment

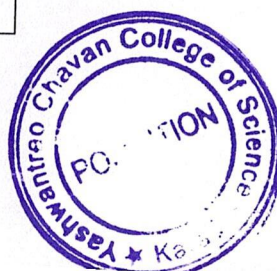
Average Attainment	Target Attainment level	Remark
3	Level 5	Target achieved

Course code	Course Title	% of students above 60 % of Final exam marks	Level of attainment Final exam	80% of attainment Level in Final exam (I)	% of students above 80 % of mid-course exam marks	Level of attainment	20% of attainment Level in mid-course exam (II)	Attainment of course(I+II)
CCE 25	Water Quality Assessment	93.33	3	2.4	80.00	2	0.4	2.8

By using below attainment levels 1,2,3 for the Percent of students in B

For internal exam	
Level 1	Less than 60% of students scoring more than average marks
Level 2	60% - 80% of students scoring more than average marks
Level 3	more than equal to 80% of students scoring more than average marks

Programme outcome level	Target Attainment
Level 1	0.5-1.0
Level 2	1.0-1.5
Level 3	1.5-2.0
Level 4	2.0-2.5
Level 5	2.5-3.0



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Department of Pollution

Short Term Course-Water Quality Assessment


Year-2022-2023

COURSE CODE - CCE-25

Attendance - Theory

Roll No.	Student Name	9/12/2022	16/12/2022	23/12/2022	30/12/2022	6/1/2023	13/1/2023	20/1/2023	27/1/2023
1	Thorat Niranjan Santosh	P	P	P	P	P	P	P	P
2	Thorat Rohit Anil	P	P	P	P	P	P	P	P
3	Thorat Shridher Ashok	P	P	P	P	P	P	P	P
4	Thorat Suraj Mohan	P	P	P	P	P	P	P	P
5	Thorat Yogesh Balkrishna	P	P	P	P	P	P	P	P
6	Tupe Tusher Tanaji	P	P	P	P	P	P	P	P
7	Waske Mahesh Satish	P	P	P	P	P	P	P	P
8	Shinde Krinajia Vijay	P	P	P	P	P	P	P	P
9	Shinde Samiksha Prakash	P	P	P	P	P	P	P	P
10	Veer Rohini Shantram	P	P	P	P	P	P	P	P
11	Wadkar Savira Balasaheb	P	P	P	P	P	P	P	P
12	Yadev Dipali Dilip	P	P	P	P	P	P	P	P
13	YadavMohini Mansing	P	P	P	P	P	P	P	P
14	Yadav Neha Vilas	P	P	P	P	P	P	P	P
15	Yadav Rohan Jaywant	P	P	P	P	P	P	P	P
16	Yewa Shubhamamraj Sanjay	P	P	P	P	P	P	P	P
17	Bhosale Aniket Hanmant	P	P	P	P	P	P	P	P
18	Desai Pratik Santosh	P	P	P	P	P	P	P	P
19	Girigosavi Nikita Sanjay	P	P	P	P	P	P	P	P
20	Kadam Yogesh Ananda	P	P	P	P	P	P	P	P




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Short Term Course-Water Quality Assessment

Year-2022-2023

Course code - CCE-25

Attendance -Theory

②

②

Roll No.	Student Name	20/01 2023	21/01 2023	21/01 2023	28/01 2023	3/02 2023	4/02 2023	10/02 2023	11/02 2023
1	Thorat Niranjana Santosh	P	P		P	P	P	P	P
2	Thorat Rohit Anil	P	P	P	P		P	P	P
3	Thorat Shridher Ashok	P	P	P	P	P	P	P	P
4	Thorat Suraj Mohan	P		P		P	P	P	P
5	Thorat Yogesh Balkrishna	P	P	P	P	P	P	P	P
6	Tupe Tusher Tanaji	P	P	P	P	P	P	P	P
7	Waske Mahesh Satish	P	P	P	P		P	P	P
8	Shinde Krinajia Vijay		P	P	P	P	P	P	P
9	Shinde Samiksha Prakash	P	P	P		P	P	P	P
10	Veer Rohini Shantram	P	P	P	P	P	P	P	P
11	Wadkar Savira Balasaheb	P	P	P	P	P	P	P	P
12	Yadev Dipali Dilip	P	P	P	P	P	P		P
13	Yadav Mohini Mansing	P	P	P	P	P	P	P	P
14	Yadav Neha Vilas	P	P	P	P		P	P	P
15	Yadav Rohan Jaywant	P	P	P	P	P	P	P	P
16	Yewa Shubhamamraj Sanjay	P		P	P	P	P	P	P
17	Bhosale Aniket Hanmant	P	P		P	P	P	P	P
18	Desai Pratik Santosh	P		P	P	P	P	P	
19	Girigosavi Nikita Sanjay	P	P	P	P	P	P	P	
20	Kadam Yogesh Ananda	P	P		P	P	P	P	P



(Signature)
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Department of Pollution

Short Term Course- Water Quality Assessment


Year-2022-2023

COURSE CODE - CCE-25

PRACTICAL ATTENDANCE

Roll No.	Student Name	8/12/22	15/12/22	5/01/23	12/01/23	19/01/23	26/01/23	02/02/23	09/02/23	16/02/23	23/02/23
1	Thorat Niranjana Santosh	P	P	P	P	P	P	P	P	P	P
2	Thorat Rohit Anil		P	P	P	P	P	P	P	P	P
3	Thorat Shridher Ashok	P	P	P		P	P	P	P	P	P
4	Thorat Suraj Mohan	P	P	P	P	P	P	P	P	P	P
5	Thorat Yogesh Balkrishna	P	P	P	P	P	P	P	P	P	P
6	Tupe Tusher Tanaji	P	P	P	P	P	P	P	P	P	P
7	Waske Mahesh Satish	P	P	P	P	P	P	P	P	P	P
8	Shinde Krinajia Vijay	P	P	P	P	P	P	P	P	P	P
9	Shinde Samiksha Prakash			P	P	P		P	P	P	P
10	Veer Rohini Shantram	P	P	P	P	P	P	P	P	P	P
11	Wadkar Savira Balasaheb	P	P	P	P	P	P	P	P	P	P
12	Yadev Dipali Dilip	P	P	P	P	P	P	P	P	P	P
13	Yadav Mohini Mansing	P		P	P	P	P	P	P	P	P
14	Yadav Neha Vilas	P	P		P	P	P	P	P	P	P
15	Yadav Rohan Jaywant	P	P	P	P	P	P		P	P	P
16	Yewa Shubhamamraj Sanjay	P	P	P	P	P	P	P	P	P	P
17	Bhosale Aniket Hanmant	P	P	P	P	P	P	P	P	P	P
18	Desai Pratik Santosh	P	P	P	P	P	P	P	P	P	P
19	Girigosavi Nikita Sanjay	P	P	P	P	P	P	P	P	P	P
20	Kadam Yogesh Ananda	P	P	P	P	P	P	P	P	P	P




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Department of Pollution
course code- CCE-25
Certificate course in

“Water Quality Assessment”

Year 2022-23

Certificate Distribution

Roll No.	Name of Student	Class	Signature
1	Thorat Niranjan Santosh	B.Sc. II	T.N.S.
2	Thorat Rohit Anil	B.Sc. II	R. Thorat
3	Thorat Shridher Ashok	B.Sc. II	TS
4	Thorat Suraj Mohan	B.Sc. II	TSueej
5	Thorat Yogesh Balkrishna	B.Sc. II	Y.B.I.
6	Tupe Tusher Tanaji	B.Sc. II	Tupe
7	Waske Mahesh Satish	B.Sc. II	W.M.S
8	Shinde Krinajia Vijay	B.Sc. II	kshinde
9	Shinde Samiksha Prakash	B.Sc. II	S.P.S
10	Veer Rohini Shantram	B.Sc. II	veer R
11	Wadkar Savira Balasaheb	B.Sc. II	W.S.B.
12	Yadev Dipali Dilip	B.Sc. II	Dipali
13	YadavMohini Mansing	B.Sc. II	Y.M.M
14	Yadav Neha Vilas	B.Sc. II	N.V.Y
15	Yadav Rohan Jaywant	B.Sc. II	R.J.Y.
16	Yewa Shubhamamraj Sanjay	B.Sc. II	YSS.
17	Bhosale Aniket Hanmant	B.Sc. II	A
18	Desai Pratik Santosh	B.Sc. II	D.P.S
19	Girigosavi Nikita Sanjay	B.Sc. III	G.N.S
20	Kadam Yogesh Ananda		K.Y.A



Principal,
Yashwantrao Chavan College
of Science, Karad

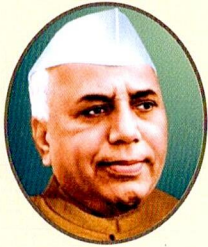
Estd.:

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|| Be one with the downtrodden and the underprivileged ||

Shri Shivaji Education Society, Vidyanagar, Karad
Board for Higher Education's, Vidyanagar Karad's

Yashwantrao Chavan College of Science, Karad




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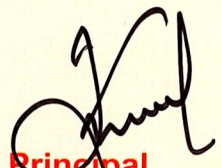
Short Term Course Certificate of Completion

This is to certify that Mr./Miss. Veer Rohini shantram
of Class B.Sc II has Completed Short Term Course (3 Months) in Water Quality Assessment
conducted by the department of Water Quality Assessment
during the academic year 2022 - 2023


Course Co-ordinator


Head of the Department
Department of Pollution
Yashwantrao Chavan College of
Science, Karad


IQAC Co-ordinator


Principal
Yashwantrao Chavan College
of Science, Karad.

Estd.:

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Short Term Course Certificate of Completion

This is to certify that Mr./Miss. Thorat Rohit Anil
of Class Bsc II has Completed Short Term Course (3 Months) in water quality Assessment
conducted by the department of water quality Assessment
during the academic year 2022- 2023


Course Co-ordinator


Head of the Department
Department of Pollution
Yashwantrao Chavan College of
Science, Karad


IQAC Co-ordinator


Principal
Yashwantrao Chavan College
of Science, Karad

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Short Term Course Certificate of Completion

This is to certify that Mr./Miss. Yadav Neha vilas.

of Class _____ has Completed Short Term Course (3 Months) in _____

water Quality Assessment _____ conducted by the department of

_____ during the academic year 2022- 2023

Beiyam

Course Co-ordnator

Prabhu

Head of the Department
Department of Pollution
Yashwantrao Chavan College of
Science, Karad

Prabhu

IQAC Co-ordinator

Shree

Principal,
Yashwantrao Chavan College
of Science, Karad