



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



YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

DEPARTMENT OF MICROBIOLOGY
CERTIFICATE COURSE ON
LABORATORY MANAGEMENT & FOOD ANALYSIS

Index

Sr. No.	Documents
1.	BOS Letter
2.	Syllabus approved letter
3.	Syllabus
4.	Course Outcomes



Estd. 1958



|| Be One with the downtrodden and the underprivileged ||
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 e-mail : prinyccsk@gmail.com

UDISE Code - 27310207715

Index No. J 21.02.002

Reaccredited B++ Level by NAAC, Bangalore

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

Ref. No. *MICRO*/18-19

Date: - 12/10/2018

As per the decision made in the CDC and IQAC, a BOS in Microbiology compositions is as follows,

BOS in Microbiology			
No.	Name	Designation	Member Category
1	Dr. N. R. Shaikh	Associate Professor and Head, Department of Microbiology, Yashwantrao Chavan College of Science, Karad	BoS Chairman
2	Dr. D. B. Jadhav	Assistant Professor, K. N. Bhise Arts, Commerce and Vinayakrao Patil Science College, Kurduwadi, Solapur	External Member
3	Dr. P. P. Loni	Senior Scientist and Techno commercial head, Yabam International, T19 Towers, Raniganj, Hyderabad-500003	Industry Member
4	Mr. S. B. Malawade	QC Executive, Raptakos Brett and Company Ltd. Karad	Alumni Member
5	Shri. T. B. Sawant	Assistant Professor, Department of Microbiology, Yashwantrao Chavan College of Science, Karad	Internal Member
6	Dr. J. U. Patil	Assistant Professor Department of Microbiology, Yashwantrao Chavan College of Science, Karad	Internal Member



[Signature]
Principal

Yashwantrao Chavan College
of Science, Karad.



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Ref. No. MICRO/2018-19

Date :- 13/10/2018

To design the certificate course for students of M.Sc. I Microbiology, the following syllabus sub-committee is framed to prepare the syllabus within one month and submit it to the Head, Department of Microbiology, Yashwantrao Chavan College of Science, Karad.

Sr. No.	Name	Designation
1.	Dr. N. R. Shaikh	Chairman
2.	Shri. T. B. Sawant	Member
3.	Dr. J. U. Patil	Member
4.	Mr. K. A. Sutar	Member




Principal
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Ref. MICRO/2018-19

Date: 16//10/2018

477

To,

Dr. P. P. Loni

Senior Scientist and Techno Commercial Head,
Yabam International, T19 Towers, Raniganj,
Hyderabad-500003

**Subject: Appointment as a Member on the Board of Studies in
Microbiology.**

Respected Sir,

The IQAC and CDC of the college are pleased to appoint you as a member of the Board of Studies in Microbiology for five years from this academic year, under the category of the **Industrial Expert** as specified in the college IQAC guidelines for framing and finalizing college-level certificate course / short-term and value-added courses conducted or proposed by the department.

I have no doubt that your depth of knowledge in the field along with your years of teaching experience will enhance our academic endeavours and assist students in fulfilling modern requirements.

Thanking You.



Yours Sincerely,

Principal
Yashwantrao Chavan College
of Science, Karad.

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Ref. MICRO/2018-19

Date: 16//10/2018

To,

Dr. D. B. Jadhav,

Assistant Professor, K. N. Bhise

Arts, Commerce and Vinayakrao Patil Science College,

Kurduwadi, Solapur

Subject: Appointment as a Member on the Board of Studies in Microbiology.

Respected Sir,

The IQAC and CDC of the college are pleased to appoint you as a member of the Board of Studies in Microbiology for five years from this academic year, under the category of the **External Expert** as specified in the college IQAC guidelines for framing and finalizing college-level certificate course / short-term and value-added courses conducted or proposed by the department.

I have no doubt that your depth of knowledge in the field along with your years of teaching experience will enhance our academic endeavours and assist students in fulfilling modern requirements.

Thanking You.



Yours Sincerely,


Principal

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Ref. 477 /2018-19

Date: 16//10/2018

To,

Mr. S. B. Malavade

QC Executive, Raptakos Brett, and Company Ltd. Karad

Subject: Appointment as a Member on the Board of Studies in Microbiology.

Respected Sir,

The IQAC and CDC of the college are pleased to appoint you as a member of the Board of Studies in Microbiology for five years from August 1, 2022, under the category of the **Alumni Member** as specified in the college IQAC guidelines for framing and finalizing college-level certificate course / short-term and or value-added courses conducted or proposed by the department.

I have no doubt that your depth of knowledge in the field along with your years of teaching experience will enhance our academic endeavours and assist students in fulfilling modern requirements.

Thanking You.



Yours Sincerely,

Principal

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

4791 MICRO/2018-19

Date: 27 /11 /2018

To,

Dr. P. P. Loni

Senior Scientist and Techno commercial head,
Yabam International, T19 Towers, Raniganj,
Hyderabad-500003

Subject: Meeting of Board of Studies in Microbiology

Respected Sir,

The meeting of the Board of Studies in Microbiology will be on 03/12/2018, at 01:00 p.m. to prepare and complete the curriculum draft of certificate course on Laboratory Management and Food Analysis to be introduced for M.Sc. I. The agenda is herewith for your consideration:

Agenda:

1. Discussion of the draft of the curriculum prepared by the Sub-Committee
2. Finalization of the syllabus with certain modifications
3. Finalization of the examination questions paper pattern, teaching methodology and study material

Kindly attend the meeting and do needful.

Thanking You.



Yours Sincerely

Principal

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

479/MICRO/2018-19

Date: 27/11/2018

To,

Dr. D. B. Jadhav,

Assistant Professor, K. N. Bhise

Arts, Commerce and Vinayakrao Patil Science College,

Kurduwadi, Solapur

Subject: Meeting of Board of Studies in Microbiology

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

429/MICRO/2018-19

Date: 27/11/2018

To,
Mr. S. B. Malavade
QC Executive,
Raptakos Brett and Company Ltd. Karad

Subject: Meeting of Board of Studies in Microbiology

Respected Sir,

The meeting of the Board of Studies in Microbiology will be on 03/12/2018, at 01:00 p.m. to prepare and complete the curriculum draft of certificate course on Laboratory Management and Food Analysis to be introduced for M.Sc. I. The agenda is herewith for your consideration:

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Department of Microbiology

Meeting of Board of Studies in Microbiology

The meeting of the Board of Studies in Microbiology is appointed by the Principal of Yashwantrao Chavan College of Science, Karad and it was held on 03/12/2018 at 01:00 pm at Department of Microbiology.

The following Members where presents,

Dr. N. R. Shaikh, Mr. D. B. Jadhav, Dr. P. P. Loni, Mr. S. B. Malavade, Mr. T. B. Sawant and Dr. J. U. Patil.

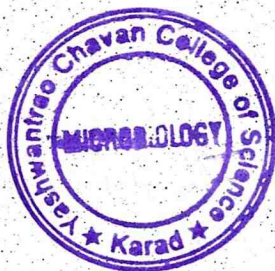
Meeting Proceedings


At the outset Dr. N. R. Shaikh welcomed the members to the meeting on behalf of the college and the department. Then he briefed the members about the certificate course on Laboratory Management and Food Analysis for the M.Sc.I. Subsequently members discussed the details on the syllabi.

The following decision where taken,

- Draft Syllabus submitted by the subcommittee is finalized with minor modifications and approved.
- The question paper pattern of the examination is finalized and attached herewith.
- The teaching methodology of the course is finalized by BOS.

The meeting ended with a vote of thanks by Dr. J. U. Patil




Principal
Yashwantrao Chavan College
of Science, Karad.

Yashwantrao Chavan College of Science, Karad

Department of Microbiology

Course Title: Certificate course in Laboratory Management and Food Analysis

Course Duration: 03 Months

Overview:

The students from Microbiology subject should know about good laboratory practises and fundamentals of food analysis. With this aim this course is designed to make aware the students about basics of laboratory standards, importance of safety in microbiology laboratory; food adulteration, microbial and chemical analysis of foods etc. People are made aware about the adulteration status of various foods available in the market.

Objective:

1. To provide basic information about laboratory management
2. To fulfill global demand for knowledge of critical analytical and laboratory practices.
3. To make aware about food adulteration and its detection
4. To minimise lab errors by adopting good laboratory practices.
5. Provide training in GLP and food analysis techniques.

Syllabus

Theory

Unit I / Credit I

(15 hrs)

Human nutrition, Basic food groups, Balanced diet; Nutritional value of food; Physico-chemical properties of food; Food preservation – Principles of food preservation, chemical and heat processing, preservatives used – chemical preservatives – its types and nature; Causes of food spoilage; prevention of food borne diseases; Microbiological Examination of Foods – Cultural techniques, direct examination, enumeration methods; Food adulteration – history, types of food adulteration, methods of food adulteration, detection of food adulteration;

Unit II / Credit II

(15 hrs)

Laboratory safety, Preparation of buffers, reagents and solutions; Common Hazards in laboratory, Hazard Analysis and Critical Control Point (HACCP) - Concept of Hazard Analysis,



Identification of Critical Control Points (CCPs), Establishment of CCP Critical Limits; Biosafety cabinets – Class I, II and III cabinets; Concept of AGMARK and ISI; Food Safety and Standards Authority of India - Establishment of the Authority, Food Safety and Standard Act, 2006.

PRACTICALS :

(30 hrs)

1. Collection and preservation of food samples
2. Determination of acidity of milk
3. Determination of Non Volatile Ether Extract of Chilli
4. Determination of protein content of given sample
5. M.B.R.T. of milk
6. Determination of Ash and Acid Insoluble ash of Turmeric
7. Determination of adulteration of food sample (Atta, Maida, Besan, Biscuit, Black pepper, Butter, Ghee, Chilli powder,, Honey, Tea, Turmeric powder, etc.)
8. Determination of Standard Plate Count of given food sample
9. Determination of B.R. value of given oil sample.

REFERENCE BOOKS :

1. Mousumi Sen (editor) - Food Chemistry_ The Role of Additives, Preservatives and Adulteration-Wiley (2021)
2. Mousumi Sen (editor) - Food Chemistry_ The Role of Additives, Preservatives and Adulteration-Wiley (2021)
3. (Issues in Environmental Science) Martin R. Adams, Maurice O. Moss - Food microbiology-RSC Publishing (2008)
4. Food adulteration By Thankamma Jacob
5. Food Microbiology by William C. frazier
6. Semih Otles - Handbook of food analysis instruments-CRC Press (2009)

Outcome of the course

After successful completion of this course students will get information about laboratory management, laboratory safety protocols and procedures, food adulteration and its detection, good laboratory practises and food analysis techniques. Course helps the students for careers in food analysis, quality assurance and regulatory compliance within the food industry.





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YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

DEPARTMENT OF MICROBIOLOGY
CERTIFICATE COURSE ON
LABORATORY MANAGEMENT & FOOD ANALYSIS
2018-19

Index

Total Students: 40

Class: M. Sc. I

Duration: 3 Months

Sr. No.	Documents
1	Notice
2	Student Enrolment
3	Timetable
4	QP Theory and Practical
5	Mark List
6	CO Attainment
7	Attendance
8	Certificate



YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD.


Department of Microbiology


2018-19

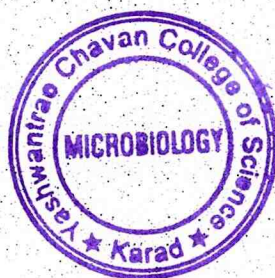
Notice

Date : 05/12/2018

All the Students of the M. Sc. I are hereby informed that the Department of Microbiology is going to run a short-term course entitled as **“Certificate course in Laboratory Management and Food Analysis”** Interested Candidates enrol their names to Dr. J. U. Patil, course Co-ordinator on or before 15/12/2018.


Course Coordinator


Head
Department of Microbiology
Yashwantrao Chavan College of Science, Karad



YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD

Department of Microbiology

Certificate Course

Certificate course in Laboratory Management and Food Analysis

Year 2018 - 2019

Name of the Enrolled Students

Roll no.	Name of Students	Sign
4028	chothe Shradha Rajendra	<u>S. Rajendra</u>
4029	chougale Bhakti shital	<u>B. Chougale</u>
4030	Dange Divya Dilip.	<u>D. Dange</u>
4031	Devkar Archana Dilip.	<u>A. Devkar</u>
4032	Jadhav Pooja Lalising	P.L. Jadhav
4033	Jadhav Pornima Pandurang	P.P. Jadhav
4034	Jadhav Gajit Maheshwar	<u>S. Jadhav</u>
4035	Jadhav Suraj Mahadev.	<u>S.M. Jadhav</u>
4036	Kamble Sayali Mohan	<u>S. Kamble</u>
4037	KATKAR MAHENDRA SHASHIKANT	M. Katkar
4038	Kumbhar. Amol Ananda	<u>A. Kumbhar</u>
4040	kumbhar Priyanka Shrihar	<u>P.S. Kumbhar</u>
4041	kumbhar Priyanka Shrihar	<u>P.S. Kumbhar</u>
4042	Lokare Durung Prabesh	<u>L. Lokare</u>
4045	Patil Pranay Panditrao	<u>P.P. Patil</u>
4046	Sandee Najamain Mansur.	<u>N.M. Sandee</u>
4047	Setye Sneha Satish	<u>S. Setye</u>
4048	Shinde Akash pandurang	<u>A. Shinde</u>
4051	Sutar Phanashree Vinayak.	<u>P. Sutar</u>
4052	Wadkar Aishwarya Arun	<u>A. Wadkar</u>

YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD

Department of Microbiology

Certificate Course

Certificate course in Laboratory Management and Food Analysis

Year 2018 - 2019

Name of the Enrolled Students

Roll no.	Name of Students	Sign
4001	BAMNE VINAYAK JAYSING	<u>Vinayak</u>
4002	DHEDASGONKAR SANKET SHIRISH	<u>SSB</u>
4004	Bhosale Kajal Lata	<u>K.L.Bhosale</u>
4005	BURGA priyanka shrikant	<u>Burga</u>
4006	chaugule mayuri Rajendra	<u>Michaugule</u>
4008	Gadiwadar Sachin Vilas	<u>Sachin</u>
4009	HALADKAR SHILESH GARJERAO	<u>haladkar</u>
4010	Jadhav Rohit Balaso	<u>RJadhav</u>
4011	Kavar Amol Vishwas.	<u>Akavar</u>
4012	kumbhar pooja suresh	<u>K.Kumbhar</u>
4014	Mulla Amie Dilavade	<u>Amella</u>
4015	Mulla Munna Katin	<u>MKnulla</u>
4016	NADAP SANDEEP VAJIR	<u>N.S.N.</u>
4018	OHal Sangmitra Arjun	<u>SOHAL</u>
4020	Patil Supriya Hamdeo	<u>SNPatil</u>
4022	Pujari Vishal Balaso	<u>Pujari</u>
4023	sapate Mayuri Mahadev	<u>Mus</u>
4024	sheikh Mustafaheen Idris	<u>mustafeen</u>
4025	SUPANE SAGAR DICAMBAR	<u>SSD</u>
4026	Udagiri Saeita Jayant	<u>Stup</u>

YASHWANTRAO CHAVAV COLLEGE OF SCIENCE, KARAD
Department of Microbiology
Certificate Course

“Certificate course in Laboratory Management and Food Analysis”
2018 - 2019

Date: 14/12/2018

All the students enrolled for **Certificate course in Laboratory Management and Food Analysis** are hereby informed that their theory lecture is going to start from 17/12/2018. All concerned should note and follow.


Course Coordinator


Head
Department of Microbiology
Yashwantrao Chavan College of Science, Karad



YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

Department of Microbiology

Certificate Course

“Certificate course in Laboratory Management and Food Analysis”

2018 - 2019

Theory Time Table

Dec. 2018 to Feb.2019

Lect. Time	Monday	Tuesday
8:30 – 9:30 am	JUP	JUP

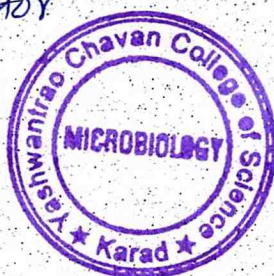
Feb. 2019


Practical Time Table

Time	Saturday
8.00 - 10.30	Lab no. 3 Department of Microbiology

1) All concerned should note and follow


Course - Coordinator




Head
Department of Microbiology
Yashwantrao Chavan College of Science, Karad

**Yashwantrao Chavan College of Science Karad,
Department of Microbiology
Certificate course in Laboratory Management and Food Analysis
Theory Examination (2018 - 19)**

Time :- 12.30 pm to 1.30 pm

Day & Date – Friday; 29/03/2019

Total Marks – 50

Instructions –

1. Figures to the right indicated marks
2. Each MCQ carry 02 marks
3. Each True / False type question carry 02 marks

Q. A Rewrite the following questions choosing the correct alternative

40

1. Which of the following is a key element of laboratory safety?
a) Proximate analysis b) Quality management systems
c) Sensory evaluation d) Microbiological analysis
2. What is the primary purpose of a Quality Management System (QMS) in a food laboratory?
a) Conducting sensory evaluations b) Ensuring safety in the workplace
c) Analyzing food composition d) Implementing marketing strategies
3. What does SOP stand for in the context of laboratory management?
a) Standard Operating Procedure b) Sensory Organizational Process
c) Safety Oversight Protocol d) Scientific Observation Procedure
4. Which aspect is NOT typically covered by laboratory resource management?
a) Personnel b) Equipment c) Marketing strategies d) Consumables
5. What is the purpose of regulatory compliance in a food laboratory?
a) To increase production speed b) To ensure adherence to safety standards
c) To reduce sensory evaluation time d) To implement new chemical analysis methods
6. What is the main purpose of proximate analysis in food testing?
a) To determine the microbial load b) To assess the major components of food
c) To evaluate sensory attributes d) To measure instrumental parameters
7. Which technique is commonly used for microbiological analysis in food?
a) High-performance liquid chromatography (HPLC) b) Polymerase Chain Reaction (PCR)
c) Gas Chromatography-Mass Spectrometry (GC-MS) d) Near-Infrared Spectroscopy (NIRS)
8. What does HACCP stand for in the context of food analysis?
a) Hazard Analysis and Critical Control Points
b) High Accuracy Chemical Composition Protocol
c) Human and Animal Chemical Control Program
d) Health Assessment for Contaminant Prevention
9. The temperatures used for canning foods ranges from
a) 0-20 degree C b) 20-60 degree C c) 60-100 degree C d) 100-121 degree C



10. Phosphatase enzyme present in milk is destroyed in which of the following processes?
a) Sterilization b) Canning c) Dehydration d) Pasteurization
11. Acetic acid and lactic acid are used for.....
a) curing meats b) preservation of color
c) preservation of pickles d) inhibiting mold growth
12. is the most common method of food preservation.
a) freezing b) fermentation c) freeze drying d) heating
13. is an organic acid used in food preservation.
a) Sulfuric acid b) Boric acid c) Sorbic acid d) Hydrochloric acid
14. Which stage does adulteration take place in?
a) Producer b) Distributor c) Retailer d) All of the mentioned
15. Why are adulterants added?
a) To increase shelf-life of products. E.g.- Urea b) To improve flavor color and appearance
c) To sell lesser quantity at the same price d) All the mentioned
16. What are Sequestrants?
a) They are added to keep the food stable
b) Form a complex ion with metals like copper, iron etc
c) Added for color d) They keep the food oxidized
17. What does BSL stand for in laboratory safety?
a. Biosecurity Level b. Biosafety Laboratory Standard
c. Biological Safety Level d. Biotechnology Safety Level
18. At which BSL would you expect to find work with microorganisms that pose minimal risk to laboratory personnel and the environment?
a. BSL-1 b. BSL-2 c. BSL-3 d. BSL-4
19. AGMARK is related to
a) Quality b) Packaging c) Processing d) Production
20. The agricultural and processed food products export development authority was established by Government of India in
a) December 1985 b) December 1980 c) January 1985 d) December 1986

Q. 2 State whether the following statements are true or false.

10 Marks

1. Quality Management Systems (QMS) are primarily concerned with marketing strategies in a food laboratory.
2. SOP stands for Sensory Organizational Process in the context of laboratory management.
3. HACCP stands for High Accuracy Chemical Composition Protocol in the context of food analysis.
4. Sensory evaluation involves the measurement of physical and chemical properties of food.
5. Laboratory safety is a crucial consideration for both personnel and equipment.



**Yashwantrao Chavan College of Science Karad,
Department of Microbiology
Certificate course in Laboratory Management and Food Analysis
Practical Examination (2018 - 19)**

Time :- 11.00 am to 5.00 pm
Day & Date – Saturday; 30/03/2019

Total Marks – 50

Instructions –

1. All questions are compulsory
2. Figures to the right indicates marks

Q. A) Identification (10 marks)

1. Identify the equipment and give its use for food analysis. (Two equipments)
2. In which analysis the reagent is used and give its significance (Two reagents)

Q. B) (10 marks)

1. Determine the acidity of given milk sample.
2. Determine the bacteriological quality of milk sample.

Q. C) (10 marks)

1. Determine the BR value of given vegetable oil.
2. Give different parameters for analysis of biscuit sample.

Q. D) Find out adulterant from following food samples and comment on it. (10 marks)

Q. E) Journal (05 marks)

Q. F) Viva (05 marks)



YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD
DEPARTMENT OF MICROBIOLOGY

ATTENDANCE SHEET - LABORATORY MANAGEMENT AND FOOD ANALYSIS

Year : 2018-19

Theory Lectures.

Class: M.Sc.I

Div.

Name of the Teacher

Roll No.	DATE	17/12/18	18/12/18	24/12/18	24/12/18	31/12/18	31/12/18	01/01/19	07/01/19	08/01/19	21/01/19
Name of the Student											
4001	BAMNE VINAYAK JAYSING	Ab	Vinayak	Vinayak	Vinayak	Vinayak	Vinayak	Vinayak	Vinayak	Vinayak	Vinayak
4002	BHEDASGONKAR SANKET SHIRISH	SSB	SSB	SSB	SSB	SSB	SSB	SSSB	SSB	SSB	SSB
4004	BHOSALE KAJAL LALA	KLBhosale	KLBhosale	KLBhosale	KLBhosale	KLBhosale	KLBhosale	KLBhosale	KLBhosale	KLBhosale	KLBhosale
4005	BUVA PRIYANKA SHRIKANT	PBuv	PBuv	PBuv	PBuv	PBuv	PBuv	PBuv	PBuv	PBuv	PBuv
4006	CHOUGULE MAYURI RAJENDRA	PChogule	PChogule	PChogule	PChogule	PChogule	PChogule	PChogule	Ab	PChogule	PChogule
4008	GADIWADAR SACHIN VILAS	Gsachin	Gsachin	Gsachin	Gsachin	Gsachin	Gsachin	Gsachin	Gsachin	Gsachin	Gsachin
4009	HALADKAR SHAILESH SARJERAO	haladkar	haladkar	haladkar	haladkar	haladkar	haladkar	haladkar	haladkar	haladkar	haladkar
4010	JADHAV ROHIT BALASO	RJadhar	RJadhar	Ab	Ab	RJadhar	RJadhar	RJadhar	RJadhar	RJadhar	RJadhar
4011	KAVAR AMOL VISHWAS	AKavar	AKavar	AKavar	AKavar	AKavar	AKavar	AKavar	AKavar	AKavar	AKavar
4012	KUMBHAR POOJA SURESH	KPS	KPS	KPS	KPS	KPS	KPS	KPS	KPS	KPS	KPS
4014	MULLA AMIR DILAVAR	AMulla	AMulla	AMulla	AMulla	AMulla	AMulla	AMulla	AMulla	AMulla	AMulla
4015	MULLA MUNNA KARIN	M.K.mulla	M.K.mulla	M.K.mulla	M.K.mulla	M.K.mulla	M.K.mulla	M.K.mulla	M.K.mulla	M.K.mulla	M.K.mulla
4016	NADAF SANOVER VAJIR	N.S.V	N.S.V	N.S.V	N.S.V	N.S.V	Ab	N.S.V	N.S.V	N.S.V	Ab
4018	OHAL SANGMITRA ARJUN	SAOHAL	SAOHAL	SAOHAL	SAOHAL	SAOHAL	SAOHAL	Ab	SAOHAL	Ab	SAOHAL
4020	PATIL SUPRIYA NAMDEO	SPatil	SPatil	SPatil	SPatil	SPatil	SPatil	Ab	SPatil	SPatil	SPatil
4022	PUJARI VISHAL BALASO	VPujar	VPujar	VPujar	VPujar	VPujar	Ab	VPujar	VPujar	VPujar	VPujar
4023	SAPATE MAYURI MAHADEV	MMS	MMS	MMS	MMS	MMS	MMS	MMS	MMS	MMS	MMS
4024	SHAIKH MUSTAKEEN ILAHI	Mustakeen	Mustakeen	Mustakeen	Ab	Mustakeen	Ab	Mustakeen	Mustakeen	Mustakeen	Mustakeen
4025	SUPANE SAGAR DIGAMBAR	SSD	SSD	SSD	SSD	SSD	SSD	SSD	SSD	SSD	SSD
4026	UDAGIRI SARITA JAYANT	SSUP	SSUP	SSUP	Ab	SSUP	SSUP	SSUP	Ab	SSUP	SSUP
4028	CHOTHE SHRADHA RAJENDRA	SRajendra	SRajendra	SRajendra	SRajendra	SRajendra	SRajendra	SRajendra	SRajendra	SRajendra	SRajendra
4029	CHOUGULE BHAKTI SHITAL	BChougule	BChougule	BChougule	BChougule	Ab	BChougule	BChougule	BChougule	Ab	BChougule

ATTENDANCE SHEET LABORATORY MANAGEMENT AND FOOD ANALYSIS

Class: M.Sc.I

[illegible]

ATTENDANCE SHEET LABORATORY MANAGEMENT AND FOOD ANALYSIS

Class: M.Sc.I

[illegible]

ATTENDANCE SHEET LABORATORY MANAGEMENT AND FOOD ANALYSIS

Class: M.Sc.I

[illegible]

ATTENDANCE SHEET LABORATORY MANAGEMENT AND FOOD ANALYSIS

Class: M.Sc.I

Roll No.	Name of the Student	DATE	22/12/18	29/12/18	05/01/19	12/01/19	02/02/19	09/02/19	23/02/19	02/03/19	09/03/19	16/03/19
		4030	DANGE DIVYA DILIP		Ab	Dange	Dange	Dange	Dange	Dange	Dange	Dange
4031	DEVKAR ARCHANA VILAS		Dee	Dee	Dee	Dee	Dee	Dee	Dee	Dee	Dee	Dee
4032	JADHAV POOJA LALSING		P.L.Jadhav	P.L.Jadhav	P.L.Jadhav	P.L.Jadhav	P.L.Jadhav	P.L.Jadhav	P.L.Jadhav	P.L.Jadhav	P.L.Jadhav	P.L.Jadhav
4033	JADHAV PORNIMA PANDURANG		P.P.Jadhav	P.P.Jadhav	P.P.Jadhav	P.P.Jadhav	P.P.Jadhav	P.P.Jadhav	P.P.Jadhav	P.P.Jadhav	P.P.Jadhav	P.P.Jadhav
4034	JADHAV SUJIT ASHOK		Sajjadha	Sajjadha	Sajjadha	Sajjadha	Ab	Sajjadha	S	Ab	Sajjadha	Sajjadha
4035	JADHAV SURAJ MAHADEV		S.M.Jadhav	S.M.Jadhav	S.M.Jadhav	S.M.Jadhav	S.M.Jadhav	S.M.Jadhav	S.M.Jadhav	S.M.Jadhav	S.M.Jadhav	S.M.Jadhav
4036	KAMBLE SAYALI MOHAN		Skamble	Skamble	Skamble	Ab	Skamble	Skamble	Skamble	Skamble	Skamble	Skamble
4037	KATKAR MAHENDRA SHASHIKANT		M.Katkar	M.Katkar	Ab	M.Katkar	M.Katkar	M.Katkar	M.Katkar	M.Katkar	Ab	M.Katkar
4038	KUMBHAR AMOL ANANDA		AAKumbhar	AAKumbhar	AAKumbhar	AAKumbhar	AAKumbhar	AAKumbhar	AAKumbhar	AAKumbhar	Ab	M.Katkar
4040	KUMBHAR OMKAR ASHOK		Omkar	Omkar	Omkar	Omkar	Omkar	Omkar	Omkar	Omkar	Omkar	Omkar
4041	KUMBHAR PRIYANKA SHRIRANG		P.S.Kumbhar	P.S.Kumbhar	P.S.Kumbhar	P.S.Kumbhar	P.S.Kumbhar	P.S.Kumbhar	P.S.Kumbhar	P.S.Kumbhar	P.S.Kumbhar	P.S.Kumbhar
4042	LOKARE ARUNA PRAKASH		Lokare	Lokare	Lokare	Lokare	Ab	Lokare	Lokare	Lokare	Lokare	Ab
4045	PATIL PRANAY PANDITRAO		P.P.	P.P.	P.P.	P.P.	P.P.	P.P.	P.P.	P.P.	P.P.	Ab
4046	SANDEE NAJARIN MANSUR		N.M.Sanje	N.M.Sanje	N.M.Sanje	N.M.Sanje	P.P.	N.M.Sanje	N.M.Sanje	N.M.Sanje	N.M.Sanje	P.P.
4047	SHETYE SNEHA SATISH		SShetye	SShetye	SShetye	SShetye	SShetye	SShetye	SShetye	SShetye	SShetye	SShetye
4048	SHINDE AKASH PANDURANG		Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
4051	SUTAR DHANASHREE VINAYAK		Sutar	Sutar	Sutar	Sutar	Sutar	Sutar	Sutar	Ab	Sutar	Sutar
4052	WADKAR AISHWARYA ARUN		Awadkar	Awadkar	Awadkar	Awadkar	Awadkar	Awadkar	Awadkar	Ab	Ab	Ab

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

Department of Microbiology

Certificate Course

“Certificate course in Laboratory Management and Food Analysis”

Year 2018- 2019

Result

Roll No.	Name of Students	Theory (Out of 50)	Practical (Out of 50)	Marks Obtained out of 100
4001	Bamne Vinayak . J	46	42	88
4002	Bhedasgonkar . Sanket . S	50	42	92
4004	Bhosale . Kajal . L	46	42	88
4005	Buva Priyanka . S	48	42	90
4006	Chougule . Mayuri . R	46	41	87
4008	Gadiwadar Sachin V	48	40	88
4009	Haladkar . Sailesh . S	46	42	88
4010	Jadhav . Rohit . B	50	42	92
4011	Kavar . Amol . V	48	40	88
4012	Kumbhar . Pooja . S	50	42	92
4014	Mulla . Amir . D	46	42	88
4015	Mulla . Munna . K	48	42	90
4016	Nadaf . Sanover . V	48	41	89
4018	Ohal . Sangmita . A	48	41	89
4020	Patil . Supriya . N	46	40	86
4022	Pujari . Vishal . B	50	42	92
4023	Sapate . Mayuri . M	48	41	89
4024	Shaikh . Mustakeen . I	46	42	88
4025	Supane . Sagar . D	48	41	89
4026	Udagiei . Sarita . J	50	41	91



Head

Department of Microbiology
Yashwantrao Chavan College of Science, Karad

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

Department of Microbiology

Certificate Course

“Certificate course in Laboratory Management and Food Analysis”

Year 2018- 2019

Result

Roll No.	Name of Students	Theory (Out of 50)	Practical (Out of 50)	Marks Obtained out of 100
4028	chothe .Shradha .R	46	41	87
4029	Chougule .Bhakti .S	46	42	88
4030	Dange .Divya .D	46	41	87
4031	Devkar .Archana .V	46	42	88
4032	Jadhav .Pooja .L	50	41	91
4033	Jadhav .Purnima .P	48	42	90
4034	Jadhav .Sujit .A	48	41	89
4035	Jadhav .Suraj .M	46	42	88
4036	Kamble .Sayali .M	46	41	87
4037	Katkar .Mahendra .S	48	41	89
4038	Kumbhar .Amol .A	48	41	89
4040	Kumbhar .Omkar .A	46	41	87
4041	Kumbhar .Priyanka .S	48	42	90
4042	Lokare .Aruna .P	46	42	88
4045	Patil .Pranay .P	42	42	84
4046	Sandee .Nagarin .M	46	41	87
4047	Shetye .Sneha .S	46	41	87
4048	Shinde .Akash .P	48	42	90
4051	Sutar .Dhanashree .V	50	42	92
4052	Wadkar .Aishwarya .A	46	41	87

Head



Department of Microbiology
Yashwantrao Chavan College of Science, Karad

Yashwantrao Chavan College of Science, Karad

Department of Microbiology

Certificate Course – Laboratory Management & Food Analysis (2018-19)

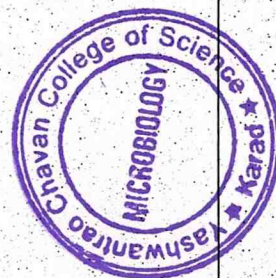
CO & PO attainment

Average Attainment	Target Attainment level	Remark
3	Level 5	Target achieved

Course code	Course Title	% of students above 60 % for practical examination	Level of attainment for practical exam	% of students above 80 % for theory examination	Level of attainment	Attainment of course (Theory & Practical)
Certificate Course	Laboratory Management & Food Analysis	100	3	100	3	3

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



Esid.:

|| 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

- Vidyanagar, Karad - 415 124.
- Reaccredited B++ Level by NAAC, Bangalore.
- An ISO 9001 : 2015 Certified College



Short Term Course

Certificate of Completion

This is to certify that Mr./M^{rs}. Pujari. Vishal. Balaso

of Class M.sc.I has Completed Short Term Course (3 Months) in "Laboratory

Management and Food Analysis" conducted by the department of

during the academic year 2018 - 2019

Course Co-ordinator

Head of the Department

IQAC Co-ordinator

Principal

**YASHWANTRAO CHAVAN COLLEGE OF SCIENCE,
KARAD**

Department of Microbiology

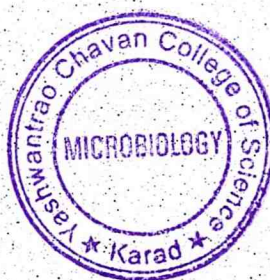
“Certificate course in Laboratory Management and Food Analysis”

Year 2018- 2019

Roll No.	Name of the Student	Signature (Certificate issued)
4001	BAMNE VINAYAK JAYSING	V. Bamne
4002	BHEDASGONKAR SANKET SHIRISH	S. Bhedasgonkar
4004	BHOSALE KAJAL LALA	K. Bhosale
4005	BUVA PRIYANKA SHRIKANT	P. Buva
4006	CHOUGULE MAYURI RAJENDRA	M. Chougule
4008	GADIWADAR SACHIN VILAS	S. Gadwadkar
4009	HALADKAR SHAILESH SARJERAO	S. H. Haladkar
4010	JADHAV ROHIT BALASO	R. Jadhav
4011	KAVAR AMOL VISHWAS	A. Kavar
4012	KUMBHAR POOJA SURESH	P. Kumbhar
4014	MULLA AMIR DILAVAR	A. Mulla
4015	MULLA MUNNA KARIN	M. K. Mulla
4016	NADAF SANOVER VAJIR	V. Nadaf
4018	OHAL SANGMITRA ARJUN	A. Ohal
4020	PATIL SUPRIYA NAMDEO	S. Patil
4022	PUJARI VISHAL BALASO	V. Pujari
4023	SAPATE MAYURI MAHADEV	M. Sapate
4024	SHAIKH MUSTAKEEN ILAHI	M. Shaikh
4025	SUPANE SAGAR DIGAMBAR	S. Supane
4026	UDAGIRI SARITA JAYANT	S. Udagiri
4028	CHOTHE SHRADHA RAJENDRA	S. Choth
4029	CHOUGULE BHAKTI SHITAL	B. Chougule
4030	DANGE DIVYA DILIP	D. Dange



4031	DEVKAR ARCHANA VILAS	<u>Ardevkar</u>
4032	JADHAV POOJA LALSING	<u>Pradhar</u>
4033	JADHAV PORNIMA PANDURANG	<u>Pradhar</u>
4034	JADHAV SUJIT ASHOK	<u>Jadhav</u>
4035	JADHAV SURAJ MAHADEV	<u>Suraj Jadhav</u>
4036	KAMBLE SAYALI MOHAN	<u>Kamble</u>
4037	KATKAR MAHENDRA SHASHIKANT	<u>Katkar</u>
4038	KUMBHAR AMOL ANANDA	<u>Kumbhar</u>
4040	KUMBHAR OMKAR ASHOK	<u>Kumbhar</u>
4041	KUMBHAR PRIYANKA SHRIRANG	<u>Pr. Kumbhar</u>
4042	LOKARE ARUNA PRAKASH	<u>Ar. Lokare</u>
4045	PATIL PRANAY PANDITRAO	<u>Patil</u>
4046	SANDEE NAJARIN MANSUR	<u>Sande</u>
4047	SHETYE SNEHA SATISH	<u>Shetye</u>
4048	SHINDE AKASH PANDURANG	<u>Akash</u>
4051	SUTAR DHANASHREE VINAYAK	<u>Sutar</u>
4052	WADKAR AISHWARYA ARUN	<u>Wadkar</u>



**YASHWANTRAO CHAVAN COLLEGE OF SCIENCE,
KARAD**

Department of Microbiology

“Certificate course in Laboratory Management and Food Analysis”

Year 2018- 2019

REPORT

Name of the Course	“Certificate course in Laboratory Management and Food Analysis”
Class	M.Sc. I
Date	2018-19
Name of the department:	Microbiology
Program type	Certificate Course
No. of Students Enrolled	40
No. of Students Successfully completed the course	40
Passing Percentage	100
Program outcomes	<p>After completion of this course students will be able to</p> <ol style="list-style-type: none"> 1. Apply effective laboratory management techniques 2. Understand the principles of food safety and hygiene 3. Understand and implement quality assurance and quality control procedures in laboratory 4. Use appropriate analytical methods based on the characteristics of food samples.



Course Coordinator



Head

Department of Microbiology

