

**“Dissemination of Education for Knowledge, Science and Culture”  
- Shikshanmaharshi Dr. Bapuji Salunkhe**

**Shri Swami Vivekanand Shikshan Sanstha's  
Vivekanand College, Kolhapur (Empowered Autonomous)  
Department of Microbiology (UG)  
Academic Year 2025-26**

**Value Added Course  
“Microbial Quality Control  
in  
Pharmaceutical Industries”**



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- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

Department Of Microbiology in Collaboration I.Q.A.C

Academic Year 2025-2026

Value Added Course in  
Microbial Quality Control in Pharmaceutical Industries

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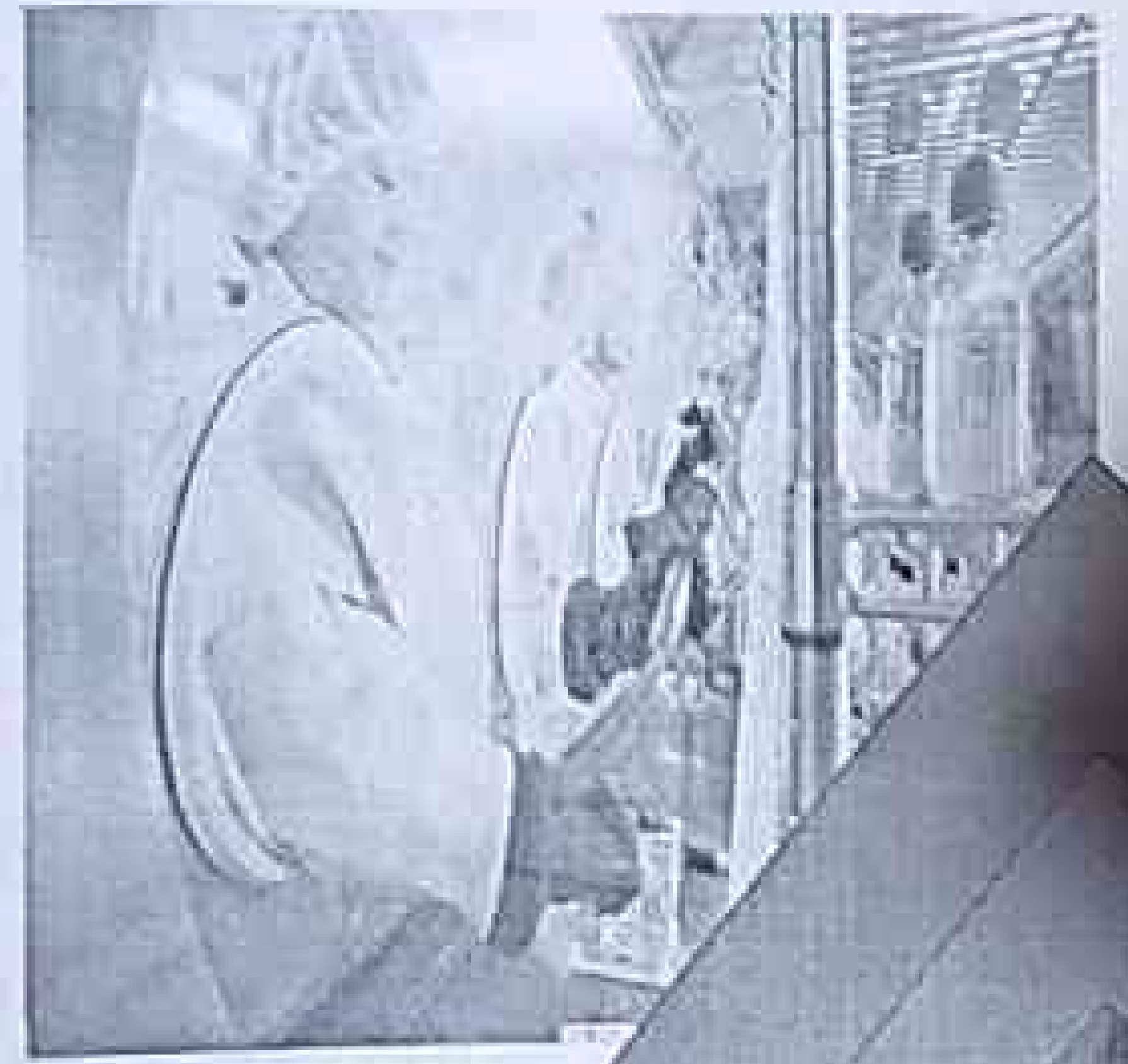
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Shri Swami Vivekanand Shikshan Sanstha's

Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

DEPARTMENT OF MICROBIOLOGY

ACADEMIC YEAR 2025-26



*Microbial quality  
control in  
Pharmaceutical  
Industries*

*DURATION:  
1 MONTH*

*ADMISSION OPEN  
(LIMITED SEATS  
ONLY)*

Contact us

- Ms. V. V. Misal: +919822376171
- Ms. M. M. Nadkarni: +917020185571
- Ms. S. S. Shaikh: +918805690190
- Ms. P. P. Patil: +91 9665737144
- Ms. A. T. Patil: +91 8766516976



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**Vivekanand College, Kolhapur (An Empowered Autonomous Institute)**

**Department of Microbiology (UG)**

**Academic Year 2025-26**

Date -: 14/08/2025

### NOTICE

All the HOD's are hereby informed that admissions for Value Added Course in "Microbial Quality Control in Pharmaceutical Industries" organized by Department of Microbiology in collaboration with IQAC, Vivekanand College, Kolhapur (An Empowered Autonomous Institute) will start on 15.09.2025. All interested students are requested to contact the Department of Microbiology for registration. All the HOD's are requested to kindly send this notice on the respective Whatsapp groups.

Total seats: 40.



*Gaupale*  
Dr. T. C. Gaupale  
I/C Head  
Department of Microbiology  
Vivekanand College, Kolhapur  
(Empowered Autonomous)

Department of Microbiology,  
Vivekanand College, Kolhapur.  
(An Empowered Autonomous Institute).  
Date: 03/01/2026

To,  
The Principal,  
Vivekanand College, Kolhapur.  
(An Empowered Autonomous Institute).


Subject: Regarding the commencement of value-added course.

Respected sir,

As per above subject, the Department of Microbiology is going to start the value-added course "Microbial Quality Control in Pharmaceutical Industries", during the academic year 2025-2026. So, kindly grant the permission for the same.

Thanking you.

हिं २१/१६, ५१९८

  
5.1.26

permission granted  
Chitrat  
5-1-2026

Yours faithfully,



Dr. T.C. Gaupale

I/C Head

Department of Microbiology  
Vivekanand College, Kolhapur  
(Empowered Autonomous)





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**Vivekanand College, Kolhapur**  
**(An Empowered Autonomous Institute)**  
**Internal Quality Assurance Cell**  
**2025-2026**



### Quality Initiatives/ Activities Report

1. **Name of Department:** Microbiology
2. **Name of Organized Activity:** Value added course in Microbial quality control in pharmaceutical industries
3. **Date/ Duration:** 6 /1/2026 to 11/02/2026
4. **Aims and Objectives:**
  - To develop skills required in pharmaceutical industries, research labs and in the field of human health.
  - To prepare the students to accept the challenges in industrial sectors.
  - To promote understanding of basic and advanced concepts of quality control in pharmaceutical industries.
5. **No. of beneficiaries:** (Male-07; Female -44) : **51** students.
6. **Expenditure & funding agency:** Nil
7. **Brief description:**

This course provides a comprehensive understanding of the principles, techniques, and regulatory frameworks governing microbial quality control (MQC) in pharmaceutical manufacturing. It focuses on the scientific basis and procedural knowledge behind microbial testing, contamination control, cleanroom classifications, and compliance with international standards such as USP, EP, IP, WHO, and FDA guidelines.

Students will gain in-depth knowledge of microbiological quality parameters for sterile and non-sterile products, environmental monitoring protocols, and the critical role of good manufacturing practices (GMP) in preventing microbial

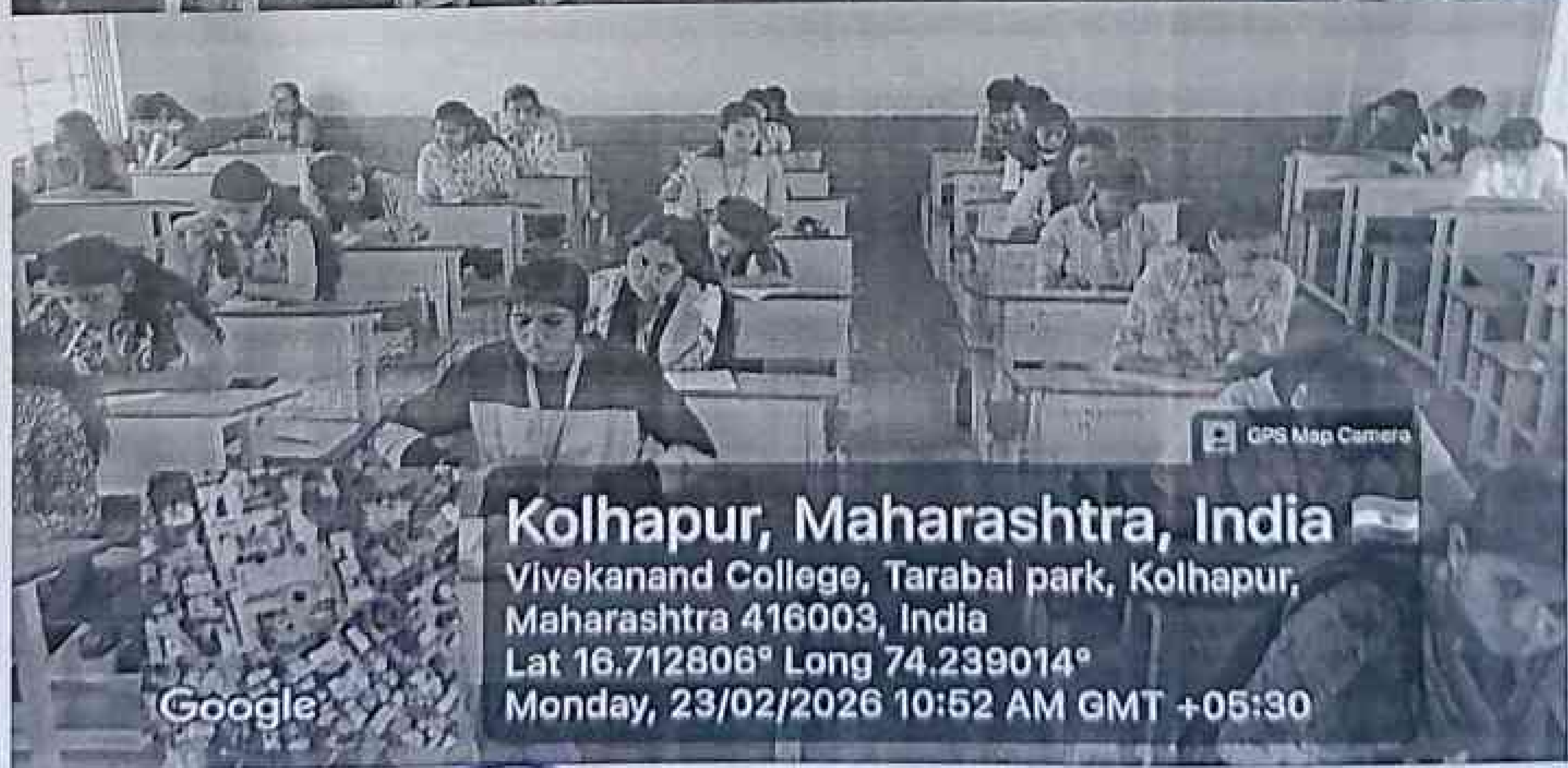
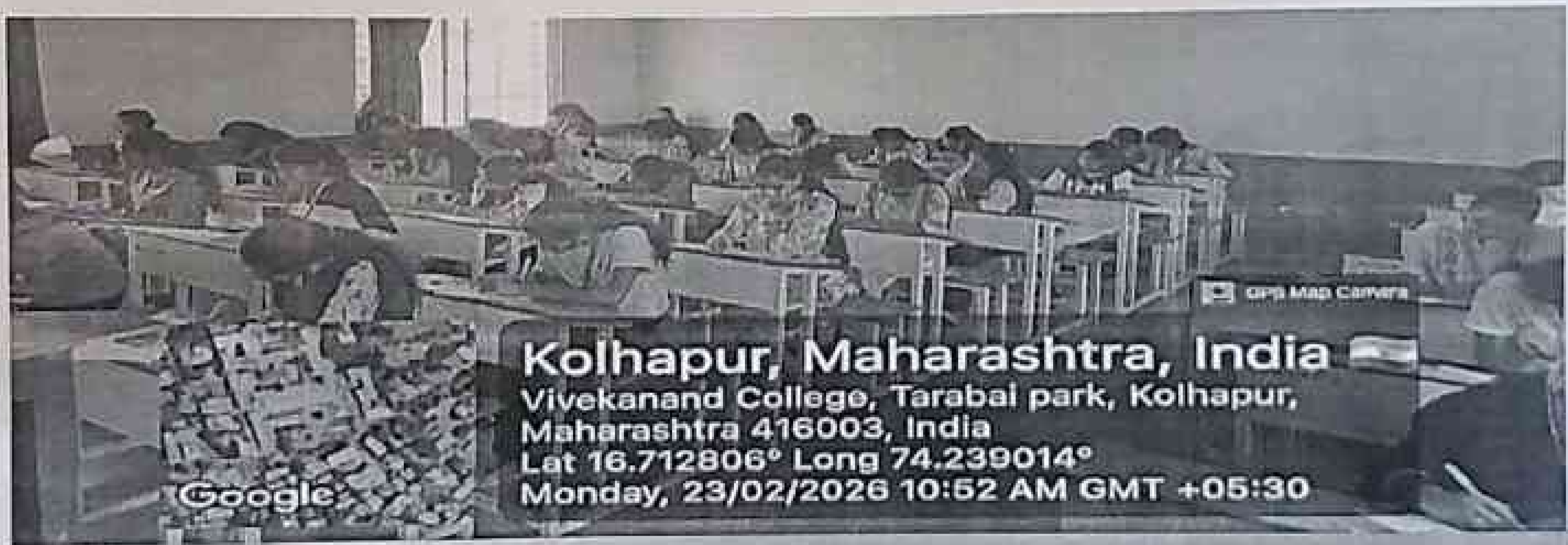
contamination. The course also addresses microbial risk assessment and quality assurance systems within pharmaceutical operations

### 8. Outcomes:

After completing this course, students will be able to:

- Understand clean room concept and its application in pharmaceutical industries
- Apply good laboratory practices during work in pharmaceutical industries.
- Understand various drug acts related to pharmaceutical industries.
- Use biochemical and immunological methods for testing of pharmaceutical products.

### • Photos:



*M.M. Nadkarni*  
Ms. M. M. Nadkarni

*T.C. Gaupale*  
Dr. T. C. Gaupale

*S.P. Thorat*  
Dr. S. P. Thorat

Co-Ordinator

H.O.D.  
I/C Head

Principal  
I/c Principal

Department of Microbiology  
Vivekanand College, Kolhapur  
(An Empowered Autonomous Institute)

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**Vivekanand College, Kolhapur (An Empowered Autonomous Institute)**  
**Department of Microbiology (UG)**  
**Academic Year 2025-26**

**Value Added Course in**  
**"Microbial Quality Control in Pharmaceutical Industries"**

Sr. No.	Heading	Particulars
1	Title of the Course	Microbial quality control in pharmaceutical industries
2	Eligibility for Admission	Candidate who passed 10+2 examination with at least 45% marks in aggregate in Arts/ Commerce/ Science
3	Passing Marks for the course	The candidate must obtain 35 % of the total marks in theory and practical separately to pass the course.
4	Level	Value Added
5	Pattern	Trimester
6	Intake Capacity	40 (2 batches each of 40)
7	Fees	Rs. 500/-
8	Job opportunities	Pharmaceutical industry and Private sectors
9	To be implemented from the Academic Year	From Academic Year -2025-26
10	Course Co-ordinator	Ms. M. M. Nadkarni (7020185571)

The present value-added course is framed to give sound knowledge with understanding of basic and advanced concepts of quality control in pharmaceutical industries. The goal of the syllabus is to implement career-oriented education and skills to student interested in directly entering the industrial workforce.

**OBJECTIVES OF THE COURSE –**

1. To develop skills required in pharmaceutical industries, research labs and in the field of human health.
2. To prepare the students to accept the challenges in industrial sectors.
3. To promote understanding of basic and advanced concepts of quality control in pharmaceutical industries.



## COURSE OUTCOME:

After completing this course, students will be able to-

- ◆ Understand clean room concept and its applications in pharmaceutical industries
- ◆ Apply good laboratory practices during work in pharmaceutical industries.
- ◆ Understand various drug acts related to pharmaceutical industries.
- ◆ Use biochemical and immunological methods for testing of pharmaceutical products.

**Title of the course: Microbial Quality Control in Pharmaceutical Industries**

**Total Hours: 30**

**Total Marks: 100**

Course	Unit	Topic	Hour/Unit
Add-on (Semester)	I	Microbiological laboratory and safe practices.	15
	II	Determining microbes in pharmaceutical samples	15



*T. C. Gaupale*  
Dr. T. C. Gaupale

I/C Head  
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**Vivekanand College, Kolhapur (An Empowered Autonomous Institute)**  
Department of Microbiology (UG)  
Academic Year 2025-26

Value Added Course in  
"Microbial Quality Control in Pharmaceutical Industries"

Syllabus Distribution

Unit	Topic	Name of lecturer
1	A. Good laboratory practices	P. P. Patil
	B. Biosafety cabinets	A. T. Patil
	C. Clean Room Concept	M. M. Nadkarni
	D. Discarding biohazardous waste	S. S. Shaikh
	E. Drug act schedule 1	M. M. Nadkarni
2	A. Biochemical and immunological methods	V.V. Misal
	B. Injectables	V.V. Misal
	C. Biosensors	A. T. Patil
	D. Calibration of instruments	S. S. Shaikh



*Guypale*  
Dr. T.C. Gaupale  
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**Vivekanand College, Kolhapur (An Empowered Autonomous Institute)**  
Department of Microbiology (UG)  
Academic Year 2025-26

Value Added Course in  
"Microbial Quality Control in Pharmaceutical Industries"

**Syllabus Distribution**

Unit	Topic	No.of Lectures	Name of lecturer
1	A. Good laboratory practices	3	Pratibha P. Patil
	B. Biosafety cabinets	3	Apurva T. Patil
	C. Clean Room Concept	3	M. M. Nadkarni
	D. Discarding biohazardous waste	3	S. S. Shaikh
	E. Drug act schedule 1	3	M. M. Nadkarni
2	A. Biochemical and immunological methods	4	V.V.Misal
	B. Injectables	3	V.V.Misal
	C. Biosensors	4	Apurva T. Patil
	D. Calibration of instruments	4	S. S. Shaikh
<b>TOTAL</b>		<b>30</b>	



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Shri Swami Vivekanand Shikshan Sanstha's

**Vivekanand College, Kolhapur (An Empowered Autonomous Institute)**

**Department of Microbiology**

**Value added course 2025-2026**

**“Microbial Quality Control In Pharmaceutical Industries”**

**List of students**

Sr. No.	Name of Student	Roll no.
1.	Aditya Yuvraj Patil	2601
2.	Adiraj Dipak Katkar	2602
3.	Aishwarya Nandkishor Pol	2603
4.	Akmal Shabbir Sayyad	2604
5.	Amruta Prashant Goture	2605
6.	Anjali Shamrao Jagtap	2606
7.	Anuradha Krishnat Patil	2607
8.	Apeksha Rajendra Chougale	2608
9.	Chaitrali Maruti Lohar	2609
10.	Darshan Ramesh Bhoi	2610
11.	Dhanashri Anil Gaikwad	2611
12.	Gargi Jitendra Patil	2612
13.	Gayatari Kumar Abane	2613
14.	Himangi Shivaji Patil	2614
15.	Hiren Vaibhav Kulkarni	2615
16.	Juveriya Muddsar Pathan	2616
17.	Jyoti Basavraj Karajgi	2617
18.	Madhura Mohan Jadhav	2618
19.	Mariya Mohsin Dange	2619
20.	Meghashree Sanjay Satpute	2620
21.	Parte Sandhyarani Bajirav	2621
22.	Pradnya Tukaram Kamble	2622
23.	Pragati ShamraoJadhav	2623
24.	Pratiksha Hindurav Patil	2624
25.	Priyadarshani Amar Salokhe	2625

26.	Radhika Sanjay Khot	2626
27.	Radhika Vijay Lad	2627
28.	Raju Tanaji Patil	2628
29.	Reetu Kallappa Patil	2629
30.	Rutuja Suresh Daribe	2630
31.	Rutuja Sanjay Patil	2631
32.	Samruddhi Suresh Parit	2632
33.	Sanika Balu Dhangar	2633
34.	Sanika Tanaji Chougule	2634
35.	Sharayu Shailendra Marathe	2635
36.	Shinde Shravani Shivaji	2636
37.	Shraddha Babaji Kamble	2637
38.	Shravani Bharat Patil	2638
39.	Shravani Shashikant Patil	2639
40.	Shravani Umesh Mule	2640
41.	Shreya Balkrishna Anantapure	2641
42.	Shrinidhi Vijapure	2642
43.	Shrushti.Sandeep.Shitole	2643
44.	Shruti Santosh Machivale	2644
45.	Shrutika Netaji Mane	2645
46.	Shubham Chandrashekhar Gaikwad	2646
47.	Shweta Laxman Mutkekar	2647
48.	Siddhi Vikas Patil	2648
49.	Sufiya Shabbir Mujawar	2649
50.	Swarupa Shivaji Kumbhar	2650
51.	Vaishnavi Shankar Patil	2651



Shri Swami Vivekanand Shikshan Sanstha's  
**Vivekanand College Kolhapur (An Empowered Autonomous Institute)**

Department of Microbiology

Value Added Course In Microbial Quality Control In Pharmaceutical Industry

Attendance Academic year 2025-2026

Sr. No.	Teacher	mmN	PPP	SSS	PPP	ATP	VVM	mmN	SSS	PPP	VVM	ATP
	Date	5/1/26	6/1/26	7/1/26	8/1/26	9/1/26	10/1/26	12/1/26	13/1/26	14/1/26	17/1/26	18/1/26
	Time	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30
	Name of topic											
	Name of Student											
1.	Aditya Yuvraj Patil	<del>AYP</del>	<del>AYP</del>	<del>AYP</del>	<del>AYP</del>	<del>AYP</del>	<del>AYP</del>	Ab	Ab	Ab	<del>AYP</del>	<del>AYP</del>
2.	Aishwarya Nandkishor Pol	<del>ANP</del>	<del>ANP</del>	<del>ANP</del>	<del>ANP</del>	<del>ANP</del>	<del>ANP</del>	Ab	Ab	Ab	<del>ANP</del>	<del>ANP</del>
3.	Akmal Shabbir Sayyad	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	<del>AS</del>	<del>ANP</del>
4.	Amruta Prashant Goture	<del>APG</del>	Ab	<del>APG</del>	<del>APG</del>	Ab	<del>APG</del>	<del>APG</del>	Ab	Ab	Ab	Ab
5.	Anantapure Shreya Balkrishna	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	<del>AS</del>	Ab
6.	Anjali Shamrao Jagtap	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
7.	Anuradha Krishnat Patil	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
8.	Apeksha Rajendra Chougale	Ab	<del>Peksha</del>	<del>Peksha</del>	<del>Peksha</del>	<del>Peksha</del>	<del>Peksha</del>	<del>Peksha</del>	<del>Peksha</del>	<del>Peksha</del>	Ab	<del>Peksha</del>
9.	Chaitrali Maruti Lohar	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
10.	Darshan Ramesh Bhoi	<del>Darshan</del>	<del>Darshan</del>	<del>Darshan</del>	<del>Darshan</del>	<del>Darshan</del>	<del>Darshan</del>	<del>Darshan</del>	<del>Darshan</del>	<del>Darshan</del>	Ab	<del>Darshan</del>
11.	Dhanashri Anil Gaikwad	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
12.	Gargi Jitendra Patil	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>	Ab	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>
13.	Gayatari Kumar Abane	<del>Abane</del>	<del>Abane</del>	<del>Abane</del>	Ab	<del>Abane</del>	<del>Abane</del>	<del>Abane</del>	Ab	Ab	<del>Abane</del>	Ab
14.	Himangi Shivaji Patil	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	<del>Patil</del>

15.	Jadhav Pragati Shamrao	<u>P.S.J</u>	<u>P.S.J</u>	<u>P.S.J</u>	<u>P.S.J</u>	<u>P.S.J</u>	<u>P.S.J</u>	AS	<u>P.S.J</u>	<u>P.S.J</u>	<u>P.S.J</u>	AS	
16.	Jyoti Basavraj Karajgi	<del>Skonggi</del>	AS	AS	AS	AS	AS	<del>Skonggi</del>	Ab	Ab	<del>Skonggi</del>	AS	
17.	Machivale Shruti Santosh	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	AS	<u>S.S.M</u>	Ab	AS	AS	
18.	Madhura Mohan Jadhav	AS	AS	AS	AS	AS	AS	<del>Madhav</del>	Ab	Ab	AS	AS	
19.	Mariya Mohsin Dange	AS	AS	AS	AS	AS	AS	Ab	Ab	Ab	Ab	AS	
20.	Meghashree Sanjay Satpute	<del>Aspute</del>	AS	<del>Aspute</del>	<del>Aspute</del>	Ab	AS	<del>Aspute</del>	<del>Aspute</del>	Ab	<del>Aspute</del>	AS	
21.	Mujawar Sufiya Shabbir	S.S.MUJAWAR	S.S.MUJAWAR	S.S.MUJAWAR	S.S.MUJAWAR	S.S.MUJAWAR	Ab	AS	S.S.MUJAWAR	Ab	Ab	AS	
22.	Parte Sandhyarani Bajirav	<u>Sandhya</u>	AS	<u>Sandhya</u>	<u>Sandhya</u>	<u>Sandhya</u>	<u>Sandhya</u>	<u>Sandhya</u>	<u>Sandhya</u>	<u>Sandhya</u>	Ab	<u>Sandhya</u>	<u>Sandhya</u>
23.	Pathan Juveriya Muddsor	<del>Inbatten</del>	<del>Inbatten</del>	<del>Inbatten</del>	<del>Inbatten</del>	<del>Inbatten</del>		<del>Inbatten</del>	<del>Inbatten</del>	Ab	<del>Inbatten</del>	AS	
24.	Patil Reetu Kallappa	<u>Patil</u>	<u>Patil</u>	<u>Patil</u>	<u>Patil</u>	<u>Patil</u>	<u>Patil</u>	AS	<u>Patil</u>	<u>Patil</u>	<u>Patil</u>	<u>Patil</u>	
25.	Pradnya Tukaram Kamble	<del>Kamble</del>	<del>Kamble</del>	<del>Kamble</del>	<del>Kamble</del>	<del>Kamble</del>	<del>Kamble</del>	AS	Ab	<del>Kamble</del>	<del>Kamble</del>	<del>Kamble</del>	
26.	Pratiksha Hindurav Patil	<u>Pratik</u>	<u>Pratik</u>	<u>Pratik</u>	<u>Pratik</u>	<u>Pratik</u>	<u>Pratik</u>	AS	Ab	Ab	<u>Pratik</u>	<u>Pratik</u>	
27.	Priyadarshani Amar Salokhe	<del>Salokhe</del>	<del>Salokhe</del>	<del>Salokhe</del>	<del>Salokhe</del>	<del>Salokhe</del>	<del>Salokhe</del>	<del>Salokhe</del>	<del>Salokhe</del>	<del>Salokhe</del>	<del>Salokhe</del>	AS	
28.	Radhika Sanjay Khot	AS	<u>Prileet</u>	<u>Prileet</u>	<u>Prileet</u>	<u>Prileet</u>	<u>Prileet</u>	AS	<u>Prileet</u>	<u>Prileet</u>	<u>Prileet</u>	AS	
29.	Radhika Vijay Lad	AS	<u>Prileet</u>	<u>Prileet</u>	<u>Prileet</u>	<u>Prileet</u>	<u>Prileet</u>	AS	Ab	Ab	<u>Prileet</u>	<u>Prileet</u>	
30.	Raju Tanaji Patil	<u>Rajupat</u>	<u>Rajupat</u>	<u>Rajupat</u>	<u>Rajupat</u>	<u>Rajupat</u>	<u>Rajupat</u>	AS	Ab	<u>Ratil</u>	<u>Rajupat</u>	<u>Rajupat</u>	
31.	Rutuja Sanjay Patil	<u>Rutuja</u>	<u>Rutuja</u>	<u>Rutuja</u>	<u>Rutuja</u>	<u>Rutuja</u>	<u>Rutuja</u>	AS	<u>Rutuja</u>	<u>Rutuja</u>	<u>Rutuja</u>	<u>Rutuja</u>	
32.	Samruddhi Suresh Parit	<u>SamSP</u>	<u>SamSP</u>	<u>SamSP</u>	<u>SamSP</u>	<u>SamSP</u>	<u>SamSP</u>	<u>SamSP</u>	<u>SamSP</u>	<u>SamSP</u>	<u>SamSP</u>	AS	
33.	Sanika Balu Dhangar	<u>Sanika</u>	<u>Sanika</u>	<u>Sanika</u>	<u>Sanika</u>	<u>Sanika</u>	<u>Sanika</u>	<u>Sanika</u>	Ab	Ab	Ab	Ab	
34.	Sanika Tanaji Chougule	<u>Sanika</u>	<u>Sanika</u>	<u>Sanika</u>	<u>Sanika</u>	<u>Sanika</u>	<u>Sanika</u>	<u>Sanika</u>	Ab	Ab	Ab	Ab	
35.	Sharayu Shailendra Marathe	<u>SSM</u>	<u>SSM</u>	<u>SSM</u>	<u>SSM</u>	<u>SSM</u>	<u>SSM</u>	<u>SSM</u>	<u>SSM</u>	Ab	<u>SSM</u>	<u>SSM</u>	
36.	Shinde Shravani Shivaji	<u>Shravani</u>	<u>Shravani</u>	<u>Shravani</u>	<u>Shravani</u>	<u>Shravani</u>	<u>Shravani</u>	Ab	<u>Shravani</u>	<u>Shravani</u>	<u>Shravani</u>	<u>Shravani</u>	
37.	Shraddha Babaji Kamble	AS	<u>SBKamble</u>	<u>SBKamble</u>	<u>SBKamble</u>	<u>SBKamble</u>	<u>SBKamble</u>	<u>SBKamble</u>	<u>SBKamble</u>	Ab	<u>SBKamble</u>	<u>SBKamble</u>	
38.	Shravani Bharat Patil	AS	<u>SBPatil</u>	AS	<u>SBPatil</u>	AS	AS	<u>SBPatil</u>	<u>SBPatil</u>	Ab	<u>SBPatil</u>	<u>SBPatil</u>	

39.	Shravani Shashikant Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil	Patil
40.	Shravani Umesh Mule	<del>Patil</del> Mule	<del>Patil</del> Mule	<del>Patil</del> Mule	<del>Patil</del> Mule	<del>Patil</del> Mule	<del>Patil</del> Mule	<del>Patil</del> Mule	Ab	Ab	<del>Mule</del>	<del>Mule</del>
41.	Shrinidhi Vijapure	Ab	Ab	Ab	Ab	Ab	Ab	Shri	Shri	Shri	Shri	Shri
42.	Shrushti.Sandeep.Shitole	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
43.	Shrutika Netaji Mane	S.N.Mane	S.N.Mane	S.N.Mane	S.N.Mane	S.N.Mane	S.N.Mane	S.N.Mane	S.N.Mane	S.N.Mane	S.N.Mane	S.N.Mane
44.	Shubham Chandrashekhar Gaikwad	Shubham	Shubham	Shubham	Shubham	Shubham	Shubham	Shubham	Ab	Ab	Ab	Ab
45.	Shweta Laxman Mutkekar	Shweta	Shweta	Shweta	Shweta	Shweta	Shweta	Ab	Ab	Ab	Shweta	Shweta
46.	Siddhi Vikas Patil	SPatil	SPatil	SPatil	SPatil	SPatil	SPatil	Ab	Ab	SPatil	SPatil	SPatil
47.	Swarupa Shivaji Kumbhar	<del>Kumbhar</del>	<del>Kumbhar</del>	<del>Kumbhar</del>	<del>Kumbhar</del>	<del>Kumbhar</del>	<del>Kumbhar</del>	Ab	Ab	Ab	<del>Kumbhar</del>	<del>Kumbhar</del>
48.	Vaishnavi Patil	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
49.	<del>Raja Tanaji Patil</del>	<del>Rajapatil</del>	<del>Rajapatil</del>	<del>Rajapatil</del>	<del>Rajapatil</del>	<del>Rajapatil</del>	<del>Rajapatil</del>	<del>Rajapatil</del>	<del>Rajapatil</del>	Ab	Ab	Ab
50.	Hiren v. Kulkarni	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
51.								Ab	Ab	Ab	Ab	Ab
Teacher sign		<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>



Vivekanand College Kolhapur (An Empowered Autonomous Institute)

Department of Microbiology

Value Added Course In Microbial Quality Control In Pharmaceutical Industry

Attendance Academic year 2025-2026

Sr. No.	Teacher	MMN	mmn	VVM	v.v.m	VVM	ATP	SSS	ATP	mmn	ppp	- ppp
	Date	19/1/25	20/1/26	21/1/26	22/1/26	23/1/26	24/1/26	28/1/26	29/1/26	30/1/26	31/1/26	2/2/26
	Time	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00-11:30	10:00	10:00
	Name of topic										11:30	11:30
Name of Student												
1.	Aditya Yuvraj Patil	<del>ayp</del>	<del>ayp</del>	<del>ayp</del>	Ab	<del>ayp</del>	<del>ayp</del>	<del>ayp</del>	<del>ayp</del>	<del>ayp</del>	s-Ab	Ab
2.	Adiraj Dipak Katkar	Ab	Ab	Adiraj	Adiraj	Ab	Ab	Adiraj	Adiraj	Ab	Ab	Ab
3.	Aishwarya Nandkishor Pol	<del>ANPOL</del>	<del>ANPOL</del>	<del>ANPOL</del>	Ab	<del>ANPOL</del>	<del>ANPOL</del>	<del>ANPOL</del>	<del>ANPOL</del>	<del>ANPOL</del>	<del>ANPOL</del>	<del>ANPOL</del>
4.	Akmal Shabbir Sayyad	<del>sayy</del>	<del>sayy</del>	<del>sayy</del>	Ab	<del>sayy</del>	<del>sayy</del>	Ab	Ab	Ab	Ab	Ab
5.	Amruta Prashant Goture	Ab	<del>Amru</del>	<del>Amru</del>	Ab	<del>Amru</del>	<del>Amru</del>	Ab	Ab	Ab	<del>Amru</del>	Ab
6.	Anjali Shamrao Jagtap	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
7.	Anuradha Krishnat Patil	Ab	<del>APatil</del>	<del>APatil</del>	<del>APatil</del>	<del>APatil</del>	<del>APatil</del>	<del>APatil</del>	<del>APatil</del>	Ab	<del>APatil</del>	Ab
8.	Apeksha Rajendra Chougale	Ab	<del>Aeksha</del>	<del>Aeksha</del>	<del>Aeksha</del>	<del>Aeksha</del>	<del>Aeksha</del>	<del>Aeksha</del>	<del>Aeksha</del>	<del>Aeksha</del>	<del>Aeksha</del>	Ab
9.	Chaitrali Maruti Lohar	Ab	Ab	emlohe	Ab	emlohe	emlohe	emlohe	Ab	emlohe	emlohe	emlohe
10.	Darshan Ramesh Bhoi	<del>Darshan</del>	<del>Darshan</del>	<del>Darshan</del>	Ab	<del>Darshan</del>	<del>Darshan</del>	Ab	Ab	Ab	Ab	Ab
11.	Dhanashri Anil Gaikwad	Ab	Ab	<del>Dgaikwad</del>	Ab	<del>Dgaikwad</del>	<del>Dgaikwad</del>	Ab	Ab	<del>Dgaikwad</del>	<del>Dgaikwad</del>	<del>Dgaikwad</del>
12.	Gargi Jitendra Patil	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>	Ab	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>	<del>G.J.P</del>
13.	Gayatari Kumar Abane	Ab	<del>GAbane</del>	<del>GAbane</del>	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
14.	Himangi Shivaji Patil	Ab	<del>HPatil</del>	Ab	Ab	Ab	Ab	Ab	Ab	Ab	<del>HPatil</del>	Ab



39.	Shravani Shashikant Patil	Patil	Patil	Patil	Patil	Ab	Patil	Ab	Patil	Ab	Patil	Ab
40.	Shravani Umesh Mule	<del>Mule</del>	<del>Mule</del>	<del>Mule</del>	<del>Mule</del>	Ab	<del>Mule</del>	<del>Mule</del>	<del>Mule</del>	<del>Mule</del>	<del>Mule</del>	Ab
41.	Shreya Balkrishna Anantapure	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
42.	Shrinidhi Vijapure	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>	Ab	<del>Shri</del>	<del>Shri</del>	Ab	Ab	Ab	Ab
43.	Shrushti.Sandeep.Shitole	Ab	<del>Shrushti</del>	<del>Shrushti</del>	Ab	Ab	Ab	<del>Shrushti</del>	Ab	Ab	Ab	Ab
44.	Shruti Santosh Machivale	<u>S.S.M</u>	<u>S.S.M</u>	Ab	Ab	Ab	<u>S.S.M</u>	Ab	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	Ab
45.	Shrutika Netaji Mane	<u>SN.Mane</u>	<u>S.N.Mane</u>	Ab	<u>S.N.Mane</u>	<u>SN.Mane</u>	Ab	Ab	<u>S.N.Mane</u>	<u>S.N.Mane</u>	Ab	Ab
46.	Shubham Chandrashekhar Gaikwad	<del>Shubham</del>	<del>Shubham</del>	<del>Shubham</del>	<del>Shubham</del>	Ab	Ab	<del>Shubham</del>	<del>Shubham</del>	<del>Shubham</del>	<del>Shubham</del>	<del>Shubham</del>
47.	Shweta Laxman Mutkekar	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>	Ab	<del>Shweta</del>	Ab	Ab	Ab	Ab	Ab
48.	Siddhi Vikas Patil	<del>Spatil</del>	<del>Spatil</del>	<del>Spatil</del>	<del>Spatil</del>	Ab	<del>Spatil</del>	<del>Spatil</del>	<del>Spatil</del>	<del>Spatil</del>	<del>Spatil</del>	<del>Spatil</del>
49.	Sufiya Shabbir Mujawar	Ab	Ab	Ab	Ab	Ab	Ab	Ab	S.S.MUJAWAR	S.S.MUJAWAR	S.S.MUJAWAR	Ab
50.	Swarupa Shivaji Kumbhar	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab	Ab
51.	Vaishnavi Shankar Patil	Ab	<del>Vaishnavi</del>	Ab	<del>Vaishnavi</del>	Ab	<del>Vaishnavi</del>	Ab	Ab	Ab	Ab	Ab
	Teacher sign	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>	<del>Patil</del>







39.	Shravani Shashikant Patil	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
40.	Shravani Umesh Mule	<del>Shruti</del>	<del>Shruti</del>	AB	AB	AB	AB	AB	AB	AB	AB	AB
41.	Shreya Balkrishna Anantapure	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
42.	Shrinidhi Vijapure	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>	<del>Shri</del>
43.	Shrushti.Sandeep.Shitole	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
44.	Shruti Santosh Machivale	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>	<u>S.S.M</u>
45.	Shrutika Netaji Mane	<u>S.N.Mane.</u>	<u>S.N.Mane.</u>	<u>S.N.Mane.</u>	<u>S.N.Mane.</u>	<u>S.N.Mane.</u>	<u>S.N.Mane.</u>	<u>S.N.Mane.</u>	<u>S.N.Mane.</u>	<u>S.N.Mane.</u>	<u>S.N.Mane.</u>	<u>S.N.Mane.</u>
46.	Shubham Chandrashekhar Gaikwad	Shubham	Shubham	AB	AB	AB	AB	AB	AB	AB	AB	AB
47.	Shweta Laxman Mutkekar	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>	<del>Shweta</del>
48.	Siddhi Vikas Patil	<del>Siddhi</del>	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
49.	Sufiya Shabbir Mujawar	AB	S.S. Mujawar	AB	AB	AB	AB	AB	AB	AB	AB	AB
50.	Swarupa Shivaji Kumbhar	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB	AB
51.	Vaishnavi Shankar Patil	AS	AS	AB	AB	AB	AB	AB	AB	AB	AB	AB
	Teacher sign	<u>Shankar</u>	<u>Shankar</u>	<u>Patil</u>	<u>Patil</u>	<u>Patil</u>	<u>Shankar</u>	<u>Shankar</u>	<u>Mujawar</u>	<u>Mujawar</u>	<u>Patil</u>	<u>Patil</u>



Dissemination of Education for Knowledge, Science and Culture”

- Shikshanmaharshi Dr. Bapuji Salunkhe

Shri Swami Vivekanand Shikshan Sanstha's

**Vivekanand College, Kolhapur (An Empowered Autonomous Institute)**

**Department of Microbiology (UG)**

**Academic Year 2025-26**

Date -: 13/02/2026

**NOTICE**

All the students of value-added course “Microbial Quality Control in Pharmaceutical Industries”, Department of Microbiology are hereby informed that the **theory examinations** will be conducted on **Monday, 23<sup>rd</sup> February, 2026.**

Title of the paper	Date	Time
Microbial Quality Control Pharmaceutical Industries	23 <sup>rd</sup> February, 2026	9:30 am -11:30am



A handwritten signature in blue ink, appearing to read "Gaupale".

**Dr. T. C. Gaupale**  
**I/C Head**

**Department of Microbiology**  
**Vivekanand College, Kolhapur**  
**(Empowered Autonomous)**

“Education for Knowledge, Science and Culture”

-Shikshanmaharshi Dr. Bapuji Salunkhe”

Shri Swami Vivekanand Shikshan Sanstha's

**Vivekanand College, Kolhapur (An Empowered Autonomous Institute)**

**Department of Microbiology**











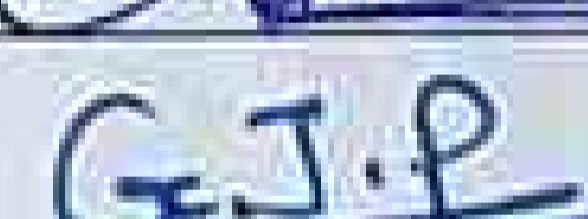









**Value added course 2025-2026**

**“Microbial Quality Control in Pharmaceutical Industries”**

**Theory Examination Attendance**

**Date- 23 February 2026**

**Time – 10.00a.m- 12.00 p.m**

Sr. No.	Name of Student	Roll no.	Sign
1.	Aditya Yuvraj Patil	2601	
2.	Adiraj Dipak Katkar	2602	
3.	Aishwarya Nandkishor Pol	2603	
4.	Akmal Shabbir Sayyad	2604	
5.	Amruta Prashant Goture	2605	
6.	Anjali Shamrao Jagtap	2606	
7.	Anuradha Krishnat Patil	2607	
8.	Apeksha Rajendra Chougale	2608	
9.	Chaitrali Maruti Lohar	2609	
10.	Darshan Ramesh Bhoi	2610	
11.	Dhanashri Anil Gaikwad	2611	
12.	Gargi Jitendra Patil	2612	
13.	Gayatari Kumar Abane	2613	
14.	Himangi Shivaji Patil	2614	
15.	Hiren Vaibhav Kulkarni	2615	
16.	Juveriya Muddsar Pathan	2616	
17.	Jyoti Basavraj Karajgi	2617	
18.	Madhura Mohan Jadhav	2618	
19.	Mariya Mohsin Dange	2619	
20.	Meghashree Sanjay Satpute	2620	
21.	Parte Sandhyarani Bajirav	2621	

22.	Pradnya Tukaram Kamble	2622	<u>Pamble</u>
23.	Pragati Shamrao Jadhav	2623	<u>P.S.J</u>
24.	Pratiksha Hindurav Patil	2624	<u>Pratik</u>
25.	Priyadarshani Amar Salokhe	2625	<u>Asad</u>
26.	Radhika Sanjay Khot	2626	<u>AL</u>
27.	Radhika Vijay Lad	2627	<u>RVLad</u>
28.	Raju Tanaji Patil	2628	<u>Rajupatil</u>
29.	Reetu Kallappa Patil	2629	<u>Rpatil</u>
30.	Rutuja Suresh Daribe	2630	<u>AS</u>
31.	Rutuja Sanjay Patil	2631	<u>Rudya</u>
32.	Samruddhi Suresh Parit	2632	<u>SamSP</u>
33.	Sanika Balu Dhangar	2633	<u>Sanika</u>
34.	Sanika Tanaji Chougule	2634	<u>Sanika</u>
35.	Sharayu Shailendra Marathe	2635	<u>Seem</u>
36.	Shinde Shravani Shivaji	2636	<u>Shravani</u>
37.	Shraddha Babaji Kamble	2637	<u>SBKamble</u>
38.	Shravani Bharat Patil	2638	<u>SBPatil</u>
39.	Shravani Shashikant Patil	2639	<u>Spatil</u>
40.	Shravani Umesh Mule	2640	<u>Smule</u>
41.	Shreya Balkrishna Anantapure	2641	<u>Shreya</u>
42.	Shrinidhi Vijapure	2642	<u>Shrid</u>
43.	Shrushti Sandeep Shitole	2643	<u>Shrushti Shitole</u>
44.	Shruti Santosh Machivale	2644	<u>S.S.M</u>
45.	Shrutika Netaji Mane	2645	<u>S.N.Mane</u>
46.	Shubham Chandrashekhar Gaikwad	2646	<u>Shubham</u>
47.	Shweta Laxman Mutkekar	2647	<u>Shweta</u>
48.	Siddhi Vikas Patil	2648	<u>SPatil</u>
49.	Sufiya Shabbir Mujawar	2649	<u>S.S. MUJAWAR</u>
50.	Swarupa Shivaji Kumbhar	2650	<u>Kumbhar</u>
51.	Vaishnavi Shankar Patil	2651	<u>Vaishnavi</u>




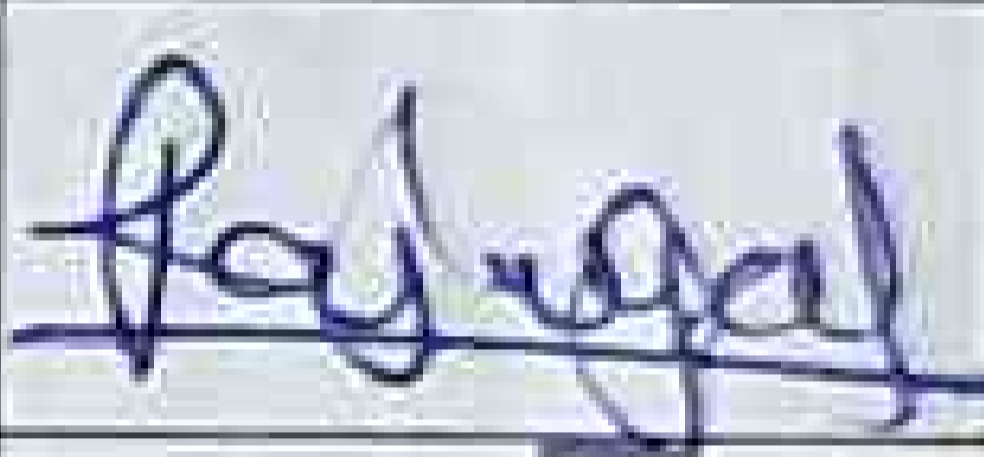




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Shri Swami Vivekanand Shikshan Sanstha's  
Vivekanand College, Kolhapur (An Empowered Autonomous Institute)  
Department of Microbiology (UG)  
Academic Year 2025-26  
Value Added Course in  
"Microbial Quality Control in Pharmaceutical Industries"

Theory Examination

Date- 13 April 2026

Time - 12.00 p. m- 2.30 p.m

Sr. no	Name of students	Roll No.	Sign
1.	Akmal shabbir sayyad	2604	
2.	Chaitrali Maruti lohar	2609	
3.	Hiren Vaibhav kulkarni	2615	
4.	Raju Tanaji Patil	2628	
5.	Rutuja Suresh Daribe	2630	
6.	Shrushiti Sandeep Shitole	2643	
7.			



Vivekanand College, Kolhapur (An Empowered Autonomous Institute)

Department of Microbiology

Value Added Course

“Microbial Quality Control In Pharmaceutical Industries”

Theory Examination

2025-2026

Date – 23 February 2026

Total marks- 50

Time- 2Hrs

- Instructions: 1) All questions are compulsory  
2) Draw neat labeled diagram wherever necessary.  
3) Figures to the right indicates full marks

Q.1 Rewrite the sentence by choosing most correct alternative from the given alternatives. 10

- Anatomical waste like tissues, organs and cultured samples are discarded by \_\_\_\_\_ process.  
a) Shredding      b) Incineration      c) Land-filling      d) Burning
- \_\_\_\_\_ is cleanest room in pharmaceutical industries.  
a) ISO Class 8      b) ISO Class 7      c) ISO Class 6      d) ISO Class 5
- \_\_\_\_\_ Biosafety cabinet is used while handling low risk biological material.  
a) Class I      b) Class II      c) Class III      d) Class IV
- Pharmacopoeia word is derived from pharmakon & poeia means \_\_\_\_\_.  
a) Drug; to make      b) Drug; to sale      c) Drug; to purchase      d) drug; to store.
- The written procedures for laboratory program are known as \_\_\_\_\_.  
a) Good laboratory practices      b) Good Microbiological practices  
c) Good Manufacturing practices      d) Standard operating procedure
- LAL test is used to determine presence of \_\_\_\_\_ in pharmaceutical product.  
a) Endotoxin      b) Virus      c) Exotoxin      d) Viable bacteria
- In sterility testing to determine the presence of anaerobic organism \_\_\_\_\_ medium is used.  
a) Fluid thioglycolate      b) Alternative thioglycolate medium      c) Nutrient agar      d) Mannitol salt agar
- \_\_\_\_\_ present in amebocyte lysate react with endotoxin to form clot.  
a) Coagulogen      b) Collagen      c) Factor B      d) Factor D

9. The molecule which are to be measured by using biosensors are known as \_\_\_\_\_.

- a) Biological molecules   b) Analyzers   c) Transducer   d) Processor

10. Instrument calibration in the pharmaceutical industry is important \_\_\_\_\_.

- a) To ensure accuracy and reliability of test results   b) To increase production speed  
c) To reduce energy consumption   d) To improve employee morale

**Q.2 Attempt any two-**

20

1. What is Endotoxin? Explain in detail LAL test.
2. Give a detail account on Good laboratory practices.
3. Describe biosensors with its types and applications.

**Q.4 Attempt any four.**

20

1. Good microbiological practices
2. Indian Pharmacopoeia
3. Sterility test
4. Color coding in biohazardous waste
5. Mechanism and advantages of biosensor
6. British Pharmacopoeia





(अधिकारप्रदत्त स्वायत्त)  
कोल्हापूर

**VIVEKANAND COLLEGE, KOLHAPUR.**  
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**SUPLIMENT**

॥ ज्ञान, विज्ञान आणि सुसंस्कार यासाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Jr. Supervisor's Sign. :

Students Sign. :

Seat No. : 2601

Seat No. in words :

Suppliment No. :

38020

Centre vivekanand college

क्र. नं.  
Q. No.

0.1

→ ~~1~~  
b] Incineration

→ ~~2~~  
b] ISO class 5 (अधिकारप्रदत्त स्वायत्त)  
कोल्हापूर

→ ~~3~~  
a] class I

→ ~~4~~  
a] Drug ; to make

→ ~~5~~  
b] Good microbiological practices

→ ~~6~~  
a] Endotoxin

02	Section	Q. No.	1																
		Marks	09																

प्र. क्र.  
Q. No.

7] → a] Fluid thioglycolate

8] → a] Coagulogenb

9] → a] Biological molecules

10] → a] To ensure accuracy and reliability of test res

(अधिकारपदत्व स्वायत्त)

कोल्हापूर

09

Q. No. 2

Marks 08

03

→ Good laboratory practices is defined as, the set of rules, to make procedure accurate and consistent, reliability to achieve result's in laboratory.

objectives of Good Laboratory practices are:

- ① To obtain ensure data test accurately.
- ② To maintain laboratory clean.
- ③ To make procedures accurate.

Principles of Good Laboratory practices

- ① To have personnel
- ② Standard operating procedures (SOP).
- ③ calibration of Instruments.
- ④ Analyst certification
- ⑤ Lab certification.

- ① Personnel - ① Their should be enough personnel  
② personnel must be qualified.

Sponsor:- It have responsibility of Instruments are labelled or not, to send reports to FDA.

04	Section	Q. No.																	
		Marks																	

प्र. क्र.  
Q. No.

② Standard operating Procedure :-

- i] Standard operating Procedure ensure the procedure have to be followed in laboratory
- ii] It gives guidelines to make, handle the instruments in lab.

③ calibration of Instruments :-

- i] Instrument's in lab should be clean & labelled properly.
- ii] The labelling should include date of manufacturing.
- iii] The date of expiry.

④ Analyst Certification :-

The personnel should be well qualified. He must have proof of qualification. ~~with~~ with qualification proof have an experience also.

08

⑤ Lab certification :-

Lab certification made by the outside agency. Lab should have proper

- ① Space
- ② ventilation
- ③ cleanliness



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कोल्हापूर

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**SUPLIMENT**

॥ ज्ञान, विज्ञान आणि सुसंस्कार यासाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

Jr. Supervisor's Sign. :

Students Sign. : 

Seat No. : 2601

Seat No. in words :

Suppliment No. :

36517

Centre vivekanand college

स. क्र.

Q. No.

Q. 2]

3]

→ 0 Types of Biosensors

i] Calibration biosensor :- It measure the temperature during exothermic for endothermic of heat.

ii] Potentiometric biosensor :- It measures the potential difference arising during redox reaction.

eg :- urea biosensor

iii] Amperometric biosensor :- It measures the current (flowing electrons) during the reaction.  
e.g :- Glucose biosensor.

iv] Conductometric biosensor :- It measure electrical conductivity of electrons during reaction.

प्र. क्र.

Q. No.

v] Acoustic wave biosensor:- It measures  
pectomyzic enzyme  
e.g. cholinesterase biosensor.

vi] optical biosensor:- It measures the light  
action during reaction.  
e.g. - enzyme biosensor.

② Applications of biosensor.

i] In food Industries:-

- It is used for detection of pathogen in food.
- E.g. - E. coli is an indicator of fecal contamination in food.
- Glucose biosensor is used in dairy industries.

ii] In medical fields:

- Glucose biosensor is used for detection of diabetes mellitus.
- It is used for detection of cardiovascular disease.
- Thermometer for fever.
- Pregnancy kit.

Drug discovery & drug analysis  
while drug discovery or analysis  
the method is used chemical operating  
system.

e.g. electrochemical biosensor.

Environment monitoring  
biosensor are also useful in environme-  
ntal monitoring.

(अधिकारपदवत् स्वायत्त)

कोल्हापर

Q. 5  
-1/1

→ In microbiology lab, personnel handling 'infectious' & also hazardous pathogens while doing her has to follow precautions mentioned in Good microbiological practices (GLP).

- ① washing hands before and after microbiology lab practices.
- ② use Full-sleeve shirt's of button.
- ③ use Apron while working in laboratory
- ④ Avoid putting hands on face & never put pencil, pen in your mouth.
- ⑤ while pipetting pipette, do not pipette by mouth. use pipette aid method.
- ⑥ Do not drink, eat, smoke in laboratory
- ⑦ Turn off bunsen burner while not in use.
- ⑧ use of hand gloves while working in laboratory.
- ⑨ Clean the surface area that you are using in lab.
- ⑩ Report accident's, spills in lab to your instructor.

04



(अधिकारप्रदत्त स्वायत्त)  
कोल्हापूर

॥ ज्ञान, विज्ञान आणि सुसंस्कार यासाठी शिक्षण प्रसार ॥

- शिक्षणमहर्षी डॉ. बापूजी साळुंखे

**VIVEKANAND COLLEGE, KOLHAPUR.**  
(Empowered Autonomous)

**SUPPLIMENT**

Jr. Supervisor's Sign. :

Students Sign. : @yf

Seat No. : 2601

Seat No. in words :

Suppliment No. :

36523

Centre Vivekanand college

प्र. क्र.

Q. No.

Q. 4

→ 4

Colour	container	waste	Treatment
Yellow	Plastic bag	Anatomical waste (Tissue, organ)	Incineration
Red	Plastic bag containers	biological waste	Shredding
<del>blue</del>	Puncture Proof Plastic bag	Sharps, (needles)	Shredding
black	container Plastic bag	microbiological, biotechnological waste	land filling
brown	plastic bag containers	Dental health care, Commercial waste	land filling
yellow marked 'Sharp'	Punctured Proof plastic bag	Sharp	Shredding



(अधिकारप्रदाल स्वायत्त)  
कोल्हापूर

॥ ज्ञान, विज्ञान आणि सुसंस्कार यासाठी शिक्षण प्रसार ॥

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brown	Plastic bag Container	Dental health care, Commercial waste	land filling
yellow marked 'Sharp'	Punctured Proof plastic bag	Sharp	Shredding

02	Section	Q. No.																
		Marks																

Q. No.					
Marks					

प्र. क्र.  
Q. No.

Colour	Container	waste	Treatment
Yellow highly Infectious क्षारी	Strong leak proof plastic bag	highly infectious	Autoclave

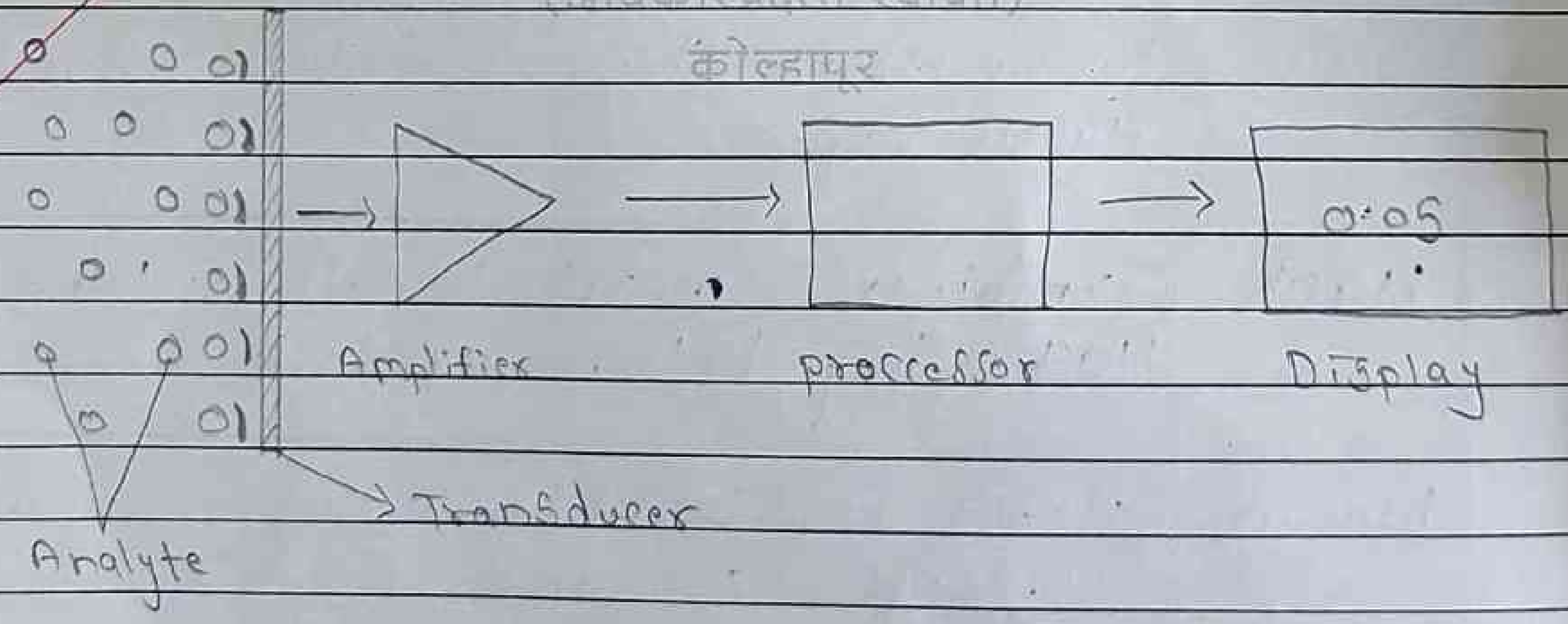
05

57

→ Biosensors are used for detection of material that are in our daily usage. The scientist Leland C. Clark is known as father of Biosensor. In biosensor biological molecules analyte & transduce to make signal that display on screen.

(अधिकारपदत्व स्वायत्त)

कोल्हापूर



Components of

Analyte :- The  
with Analyte

Biological equi  
equipments

Transducer :-  
produce

- ② Advantages
- Specific
  - easy to
  - need le
  - give in
  - required

3

## Components of biosensor

Analyte :- The biological equipments analyse with Analyzer & produce signal.

Biological equipment :- These are biological equipments are analyse & produce heat.

Transducer :- It analyse the signal & produce on display.



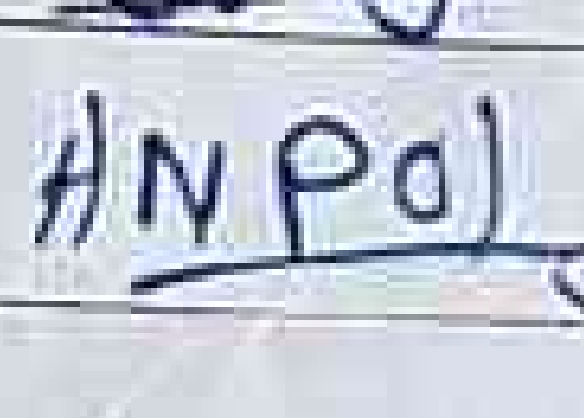



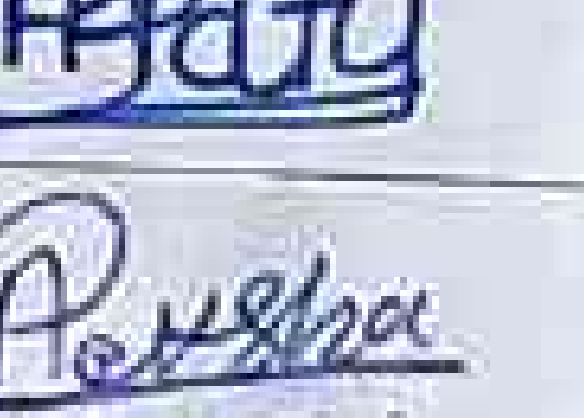
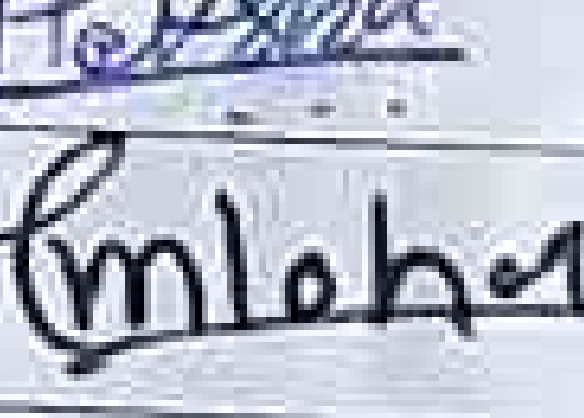
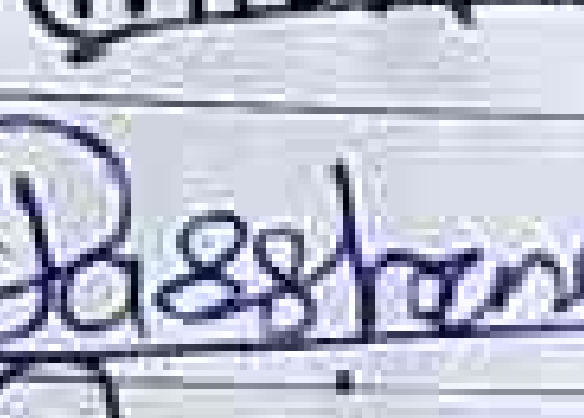
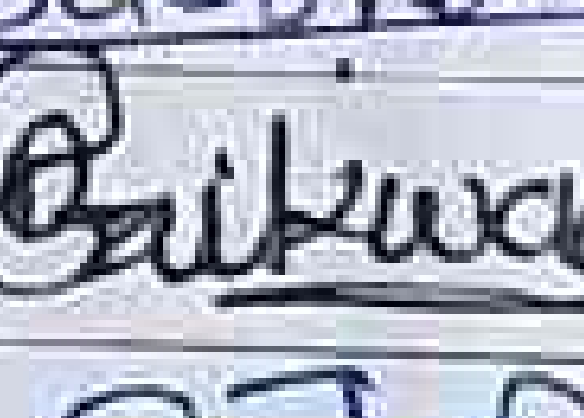

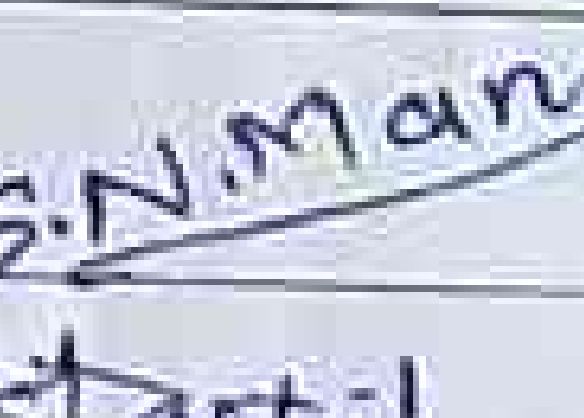


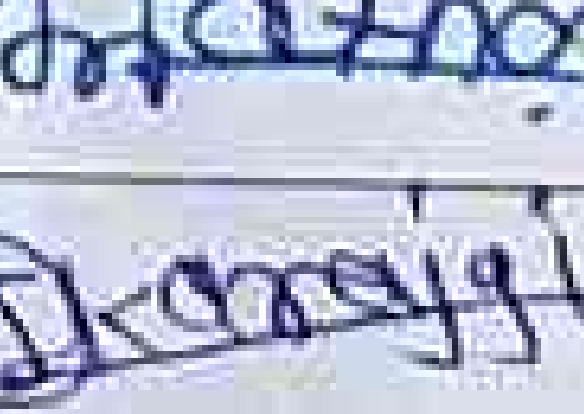
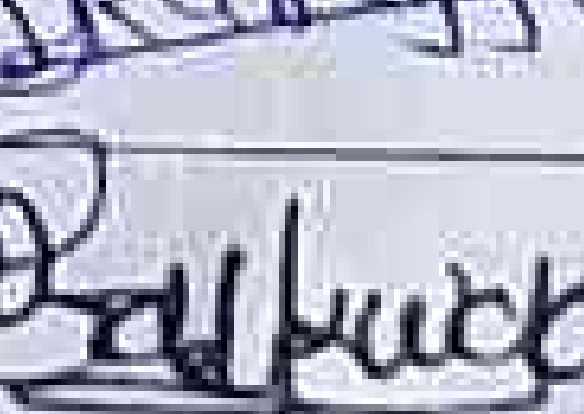
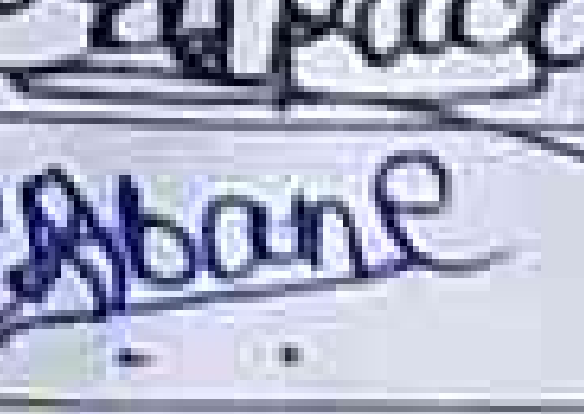
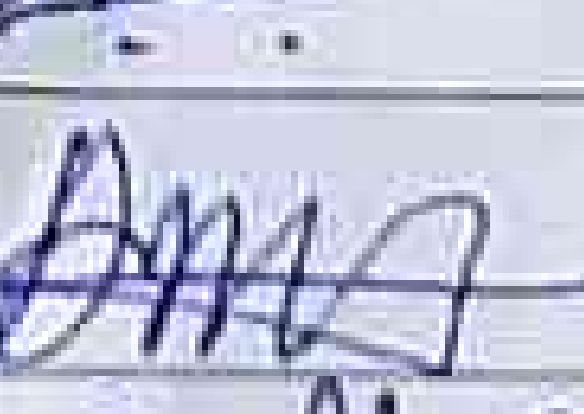

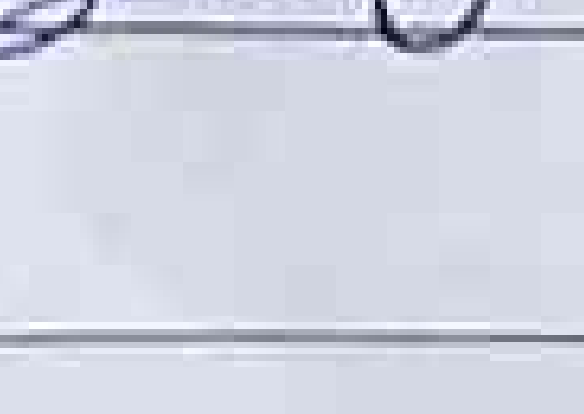

## ② Advantages of biosensor

- Specific
- easy to use (अधिकारपद्धत स्वायत्त)
- need less reagents/materials.
- give instant results
- required less time in comparison with others.

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**Vivekanand College, Kolhapur (An Empowered Autonomous Institute)**  
**Department Of Microbiology in Collaboration I.Q.A.C**  
Academic Year 2025-2026

Value Added Course in  
Microbial Quality Control in Pharmaceutical Industries  
Certificate Distribution

Sr. no.	Name of student	Roll no.	Marks	Percentage	Student sign
1.	Aditya Yuvraj Patil	2601	36	72 %	
2.	Adiraj Dipak Katkar	2602	18	36 %	
3.	Aishwarya Nandkishor Pol	2603	26	52 %	
4.	Akmal Shabbir Sayyad	2604	16	32 %	
5.	Amruta Prashant Goture	2605	26	52 %	
6.	Anjali Shamrao Jagtap	2606	18	36 %	
7.	Anuradha Krishnat Patil	2607	33	66 %	
8.	Apeksha Rajendra Chougale	2608	33	66 %	
9.	Chaitrali Maruti Lohar	2609	20	40 %	
10.	Darshan Ramesh Bhoi	26010	18	36 %	
11.	Dhanashri Anil Gaikwad	26011	18	36 %	
12.	Gargi Jitendra Patil	26012	20	40 %	
13.	Gayatari Kumar Abane	26013	28	56 %	
14.	Himangi Shivaji Patil	26014	18	36 %	
15.	Hiren Vaibhav Kulkarni	26015	22	44 %	
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18.	Madhura Mohan Jadhav	26018	22	44 %	
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21.	Parte Sandhyarani Bajirav	26021	28	56 %	

22.	Pradnya Tukaram Kamble	26022	22	44 %	<u>Pradnya</u>
23.	Pragati ShamraoJadhav	26023	20	40 %	<u>P.S.J</u>
24.	Pratiksha Hindurav Patil	26024	26	52 %	<u>Patil</u>
25.	Priyadarshani Amar Salokhe	26025	18	36 %	<u>Asani</u>
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27.	Radhika Vijay Lad	26027	18	36 %	<u>RVLad</u>
28.	Raju Tanaji Patil	26028	20	40 %	<u>Rajupatil</u>
29.	Reetu Kallappa Patil	26029	31	62 %	<u>Rpatil</u>
30.	Rutuja Suresh Daribe	26030	21	42 %	
31.	Rutuja Sanjay Patil	26031	22	44 %	<u>Rutuja</u>
32.	Samruddhi Suresh Parit	26032	35	70 %	<u>SamP</u>
33.	Sanika Balu Dhangar	26033	26	52 %	<u>Sanika</u>
34.	Sanika Tanaji Chougule	26034	35 v	70 %	<u>Sanika</u>
35.	Sharayu Shailendra Marathe	26035	22	44 %	<u>Sharayu</u>
36.	Shinde Shravani Shivaji	26036	31	62 %	<u>Shravani</u>
37.	Shraddha Babaji Kamble	26037	25	50 %	<u>SBKamble</u>
38.	Shravani Bharat Patil	26038	18	36 %	<u>Shravani</u>
39.	Shravani Shashikant Patil	26039	23	46 %	<u>Shravani</u>
40.	Shravani Umesh Mule	26040	21	42 %	<u>Shravani</u>
41.	Shreya Balkrishna Anantapure	26041	16	32 %	<u>Shreya</u>
42.	Shrinidhi Vijapure	26042	34	68 %	<u>Shrinidhi</u>
43.	Shrushti.Sandeep.Shitole	26043	24	48 %	<u>Shrushti</u>
44.	Shruti Santosh Machivale	26044	27	54 %	<u>S.S.M</u>
45.	Shrutika Netaji Mane	26045	21	42 %	<u>S.N.Mane</u>
46.	Shubham Chandrashekhar Gaikwad	26046	27	54 %	<u>Shubham</u>
47.	Shweta Laxman Mutkekar	26047	20	40 %	<u>Shweta</u>
48.	Siddhi Vikas Patil	26048	33	66 %	<u>Spatil</u>
49.	Sufiya Shabbir Mujawar	26049	18	36 %	<u>S.S.M.MUJAWAR</u>
50.	Swarupa Shivaji Kumbhar	26050	21	42 %	<u>Swarupa</u>
51.	Vaishnavi Shankar Patil	26051	26	52 %	<u>Vaishnavi</u>



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**DEPARTMENT OF MICROBIOLOGY**



# Certificate

This is to certify that Mr./Ms. Radhika Sanjay Khot of  
B. Sc. I/ II/ III has successfully completed Value Added Course in "**Microbial Quality Control in  
Pharmaceutical Industries**" carried out by the Department of Microbiology, Vivekanand College,  
Kolhapur ( An Empowered Autonomous) during the academic year 2025-26. This certificate is awarded  
after passing theory examination.

*Nadkarni*

**Ms. M. M. Nadkarni**

Course Coordinator

*Gaupale*

**Dr. T. C. Gaupale**

Head of Department

*Thorat*

**Dr. S. P. Thorat**

I/C Principal

“Education for Knowledge, Science and Culture”

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Shri Swami Vivekanand Shikshan Sanstha's

**Vivekanand College, Kolhapur (An Empowered Autonomous Institute)**

Department of Microbiology

In collaboration with I.Q.A.C.

Value added course 2025-2026

“Microbial Quality Control In Pharmaceutical Industries”

**FEEDBACK FORM**

• Name of student: - Shraddha Babaji Kamble,

• Class:- B.S.C - I Roll No:- 7517

• Feedback about the course: -

r Concepts For this courses increase  
the extra knowledge related to  
the medical.

• Suggestions:-

A I want to be a practicals.



Kamble  
Sign of student

“Education for Knowledge, Science and Culture”

-Shikshanmaharshi Dr. Bapuji Salunkhe”

Shri Swami Vivekanand Shikshan Sanstha's

**Vivekanand College, Kolhapur (An Empowered Autonomous Institute)**

Department of Microbiology

In collaboration with I.Q.A.C.

Value added course 2025-2026

“Microbial Quality Control In Pharmaceutical Industries”

**FEEDBACK FORM**

• Name of student: - Jyoti Basavraj Karajgi

• Class:- Bsc-I Roll No:- 7519

• Feedback about the course: -

Concept of this course is beneficial  
to our life. so nice program  
conducted in college.

• Suggestions:-

No suggestions.



Karajgi

Sign of student