Vishnu Waman Thakur Charitable Trust's

Bhaskar Waman Thakur College of Science,
Yashvant Keshav Patil College of Commerce,
Vidhya Dayanand Patil College of Arts,
(VIVA College)

Introduction to Basic Microbiology Laboratory Practices (CC-IBMLP)

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VIVA COLLEGE

DEPARTMENT OF BIOTECHNOLOGY

CERTIFICATE COURSE
IN

INTRODUCTION TO BASIC MICROBIOLOGY LABORATORY PRACTICES

Special Features:

- Hybrid mode of teaching(Both offline + online)
- Hands of training for skill development.
- Topic wise conceptual Q and A session.
- Certificate of completion.
- Test/Score.

Course Duration: **30 Hours**

Location: Biotechnology Lab, Old Campus, VIVA College, Virar

Contact :

Email: swatichaudhari@vivacollege.org

Mobile: 8149316684

Resource Person : Mrs. Swati Lomate

Register at

https://forms.gle/9qm MTNnh5UG5VEc28

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CERTIFICATE COURSE FORMAT

Sr. No	Particulars	
1.	Department	Biotechnology
2.	Name of the Course and Course Code	Introduction to Basic Microbiology Laboratory Practices
3.	Code	**CC- IBMLP**
4.	Duration	**30 Hours**
5.	Date of Commencement	**12th February 2024**
6.	Curriculum / Syllabus copy of the course	**1) Introduction to Microbiology Laboratory (8 hours T+P)** ● Good laboratory practices in the microbiology laboratory and Biosafety measures. ● Introduction and use of common laboratory glass wares: Test tubes, culture tubes, suspension tubes, screw capped tubes, Petri plates, pipettes (Mohr and serological) micropipettes, Pasteur pipettes, Erlenmeyer flask, volumetric flask, glass spreader, Durham's tube and inoculating needles (wire loop, stab needles). ● Learning basic techniques in Microbiology: Wrapping of glassware, cotton plugging, cleaning and washing of glassware, biological waste disposal, sterile glassware handling techniques, use of burners, Use of inoculating needles. ● Introduction, operation, precautions and use of common microbiology laboratory instruments: Incubator,

		Hot air oven, Autoclave, Colorimeter, Laminar air flow hood, Centrifuge. **2) Introduction to microscope and microscopic techniques (4 hours T+P)** ● Construction (mechanical and optical), working and care of bright field microscope. ● Wet mount slide preparation and its observation. ● Observation of motility in bacteria using: Hanging drop method. **3) Microbial control methods (4 hours T)** ● Physical agents: Heat-Dry heat and moist heat, Radiation. ● Chemical agents and their mode of action . ● Mechanical removal methods: filtration. 4) **Cultivation of Microorganisms (7 hours T+P)** ● Design and preparation of media: Common ingredients of media and types of media. ● Concept of Pure Culture, Isolation of culture by streak plate, pour plate, spread plate. **5) Staining Techniques (7 hours T+P)** ● Definition of Stain; Types of stains (Basic and Acidic) ● Properties and role of Fixatives, Mordants , Decolourisers and Accentuators. ● Monochrome staining and Negative staining ● Differential staining - Gram staining.

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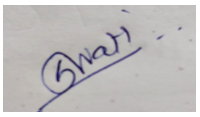
		• Special staining.
7.	Committee (BoS) for framing of syllabus	1. Chairman :Dr. Sneha More 2. Coordinator : Mrs. Swati Lomate 3. Member : Mr. Vikas Gupta
8.	Mode of Delivery of the curriculum	Hybrid Mode
9.	Assessment procedure	Test, Assignments etc.
10.	Outcomes of the program	1. Students will be able to work, operate instruments and perform microbiology experiments in a microbiology laboratory following basic microbiology practices. 2. Student will be able to isolate microorganisms by pure culture methods using aseptic techniques. 3. Student will be able to handle and operate bright field microscope for visualization of microbial preparations.

Name & Signature of Course Coordinator

Mrs.Swati Lomate (Chaudhari)



Name & Signature of HOD

Dr.Sneha More