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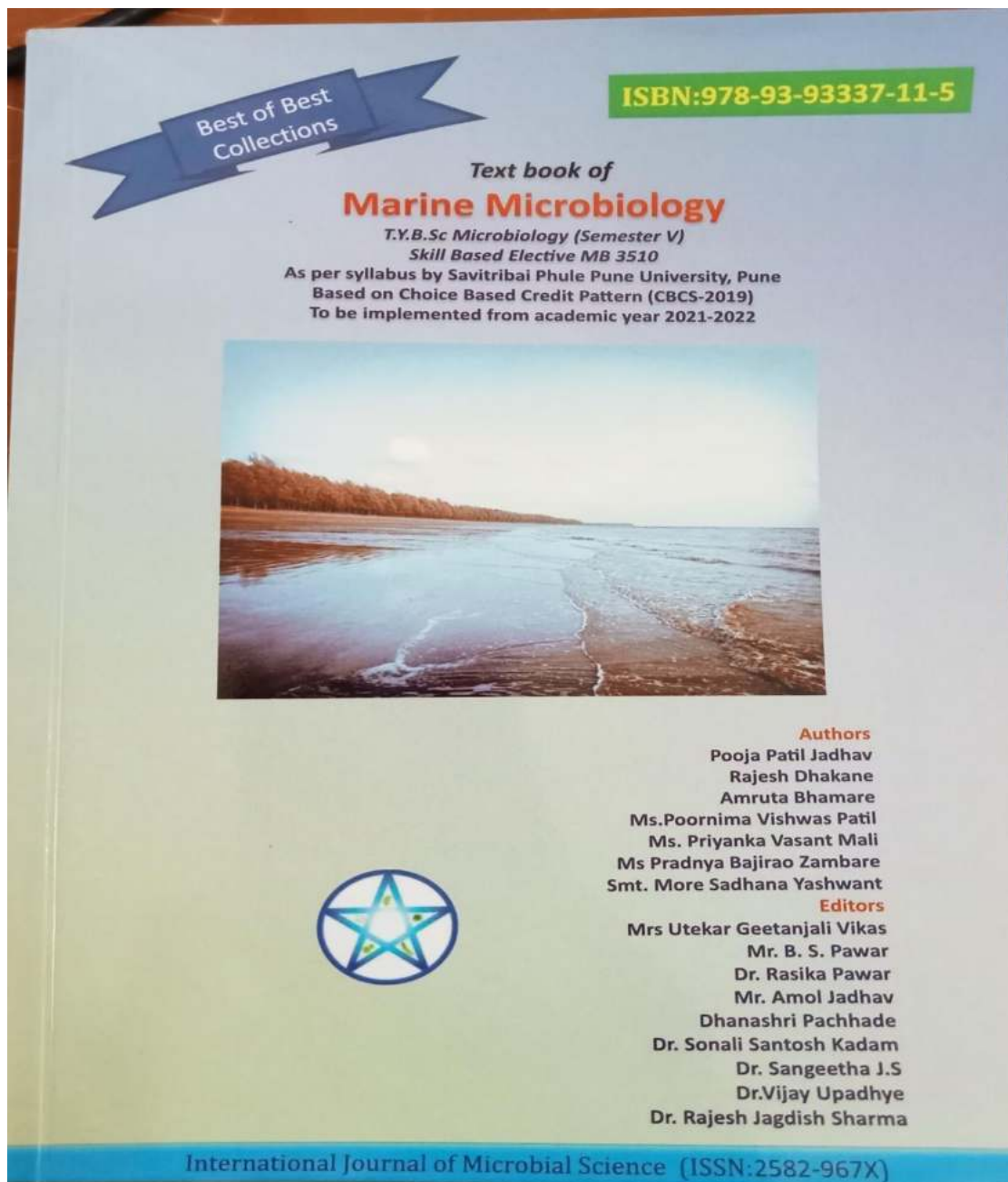
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*T.Y.B.Sc Microbiology (Semester V)*

*Skill Based Elective MB 3510*

*As per syllabus by Savitribai Phule Pune University, Pune*

*Based on Choice Based Credit Pattern (CBCS-2019)*

*To be implemented from academic year 2021-2022*

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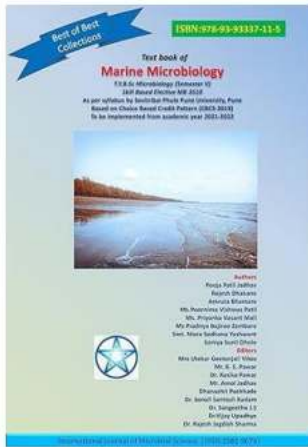
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Hello everyone, we are pleased to release the text book entitled 'Marine Microbiology' for T.Y.B.Sc (Semester V) aspirants of Savitribai Phule Pune University, Pune categorized under Skill Based Elective Course. The book has been written as per the revised syllabus effective from 2021-2022 under Choic Based Credit System (CBCS) 2019. This is to fulfil the academic needs of students who are waiting the improving their learning objectives. We are sure that the presented literature will play potential role in improving academic status of advanced educational policy of Academic Based Credit Bank launched by Indian Government in the university. We wish you very best wishes to all.

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Authors Dr. Sudipta Banerjee  
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Practical  
Handbook of  
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# Diagnostic Microbiology and Immunology





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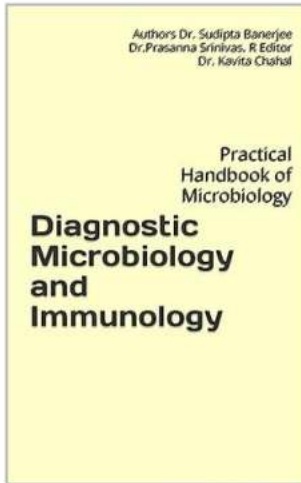
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## Diagnostic Microbiology and Immunology: Practical Handbook of Microbiology Kindle Edition

by Authors Dr. Sudipta Banerjee Dr.Prasanna Srinivas. R Editor Dr. Kavita Chahal (Author) | Format: Kindle Edition

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Dear students, there are several experiments in Microbiology which are based on theoretical aspects. Basic knowledge of laboratory work is important for designing future research plan. It is a very crucial for the students that they should learn research skills. However, there are some difficulties that are observed in the minds of students during a scientific demonstration of the practical courses due to lack of detailed protocols. As a result, we have made sincere efforts to solve the problem in question through this book and provided up-to-date basic information and experiments based on theoretical knowledge. We are sure that the book will be valuable for students to get up the mark in scientific knowledge.

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*Practical Handbook on*

**Medical Microbiology and Immunology**

(MB 367) Practical course-I based on: MB 361 Medical Microbiology II and MB 362 Immunology II

T.Y.B.Sc Microbiology, Semester VI

Choice Based Credit System [CBCS] 2019 Pattern

As per syllabus by Savitribai Phule Pune University, Pune

(To be implemented from Academic Year 2021-22)

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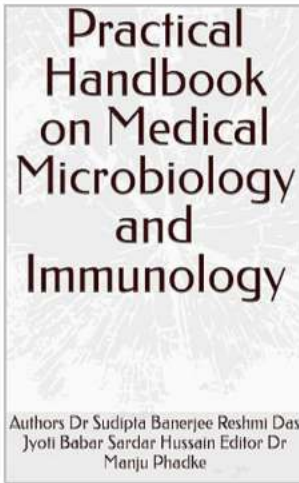
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Authors Dr Sudipta Banerjee Reshmi Das  
Jyoti Babar Sardar Hussain Editor Dr  
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by Authors Dr Sudipta Banerjee Reshmi Das Jyoti Babar Sardar Hussain Editor Dr Manju Phadke (Author) | Format: Kindle Edition

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### Assessment of Young's Modulus of Aluminium, Copper, Iron, Brass and Steel Alloys by Using Double Exposure Holographic Interferometry (Dehi) Technique

H. R. Kulkarni; S. N. Shukla; M. B. Dongare

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#### Abstract

Double Exposure Holographic Interferometry (DEHI) technique has wide applications in the field of science and engineering. DEHI can be used to determine very small surface changes in an object at very small interval of time. This can be used to determine or for the assessment of some physical properties of materials.

In present case, DEHI technique is used to record the hologram of the same object at different times subjected to different loads. This method has been advantageously used to determine Young's Modulus ( $\gamma$ ) of Aluminium, Copper, iron, brass and some steel alloys. It is found that the values of  $\gamma$  obtained by using DEHI technique are in close agreement with standard values of  $\gamma$  available for respective metals and their alloys. The method is also used to make standard relation between effect of carbon composition and  $\gamma$  of steel alloys.

**Keywords:** DEHI; double exposure holographic interferometry; young's modulus



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# Fermentation Technology I and Agricultural Microbiology

## Practical Handbook of Microbiology

Dhakane R Zate A Masalkar S Upadhye V  
Hirani D Adhao A Upadhyay U Patil N  
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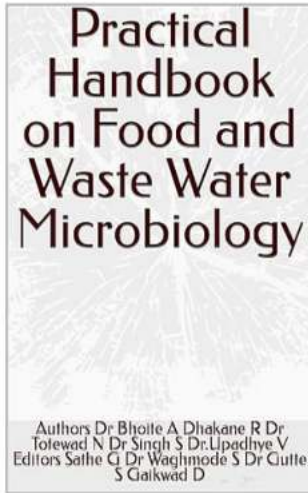
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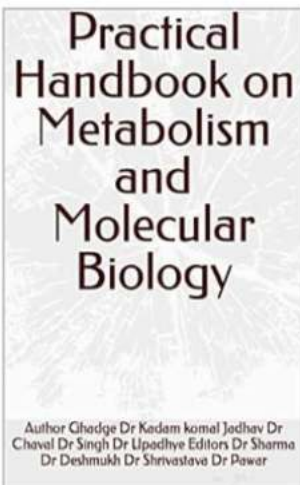
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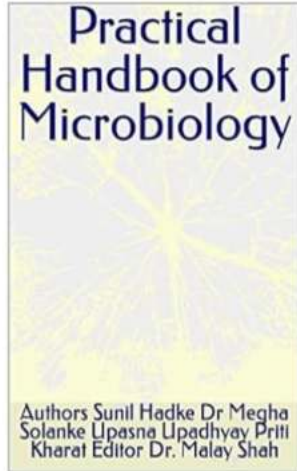
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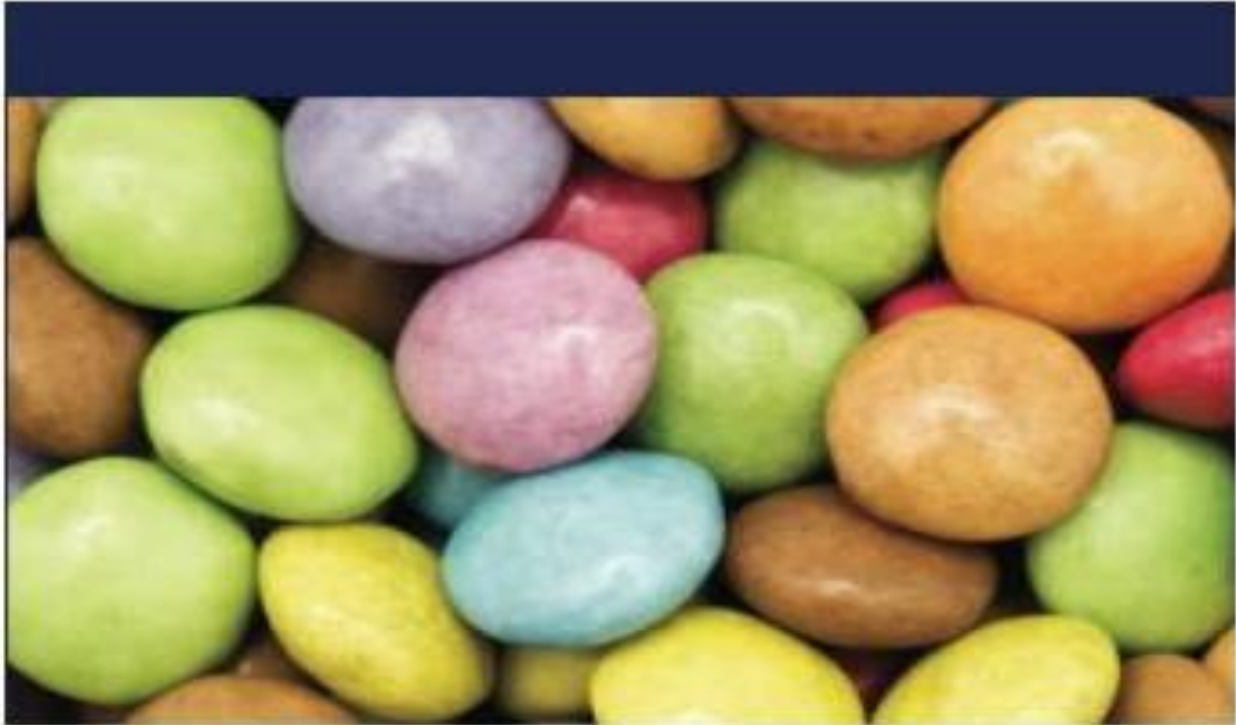
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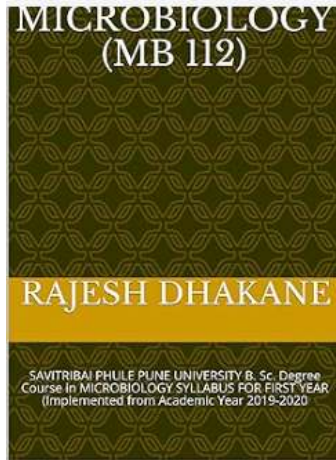
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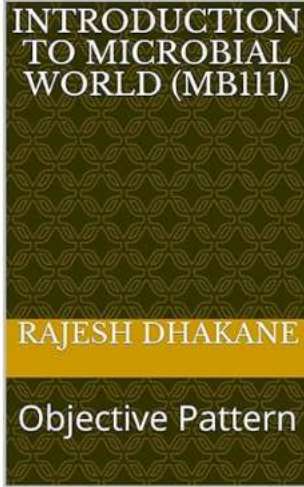
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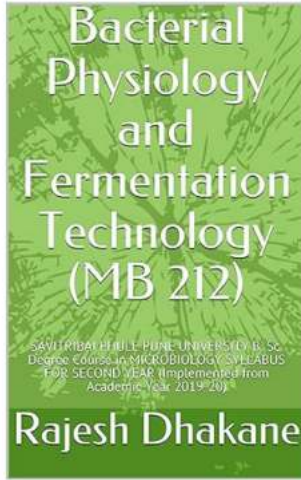
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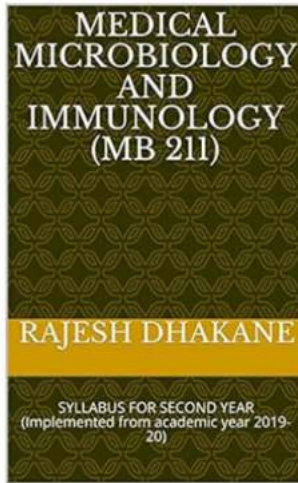
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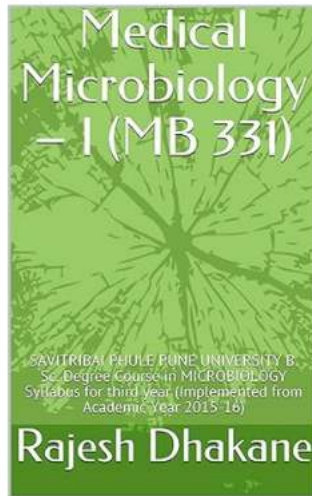
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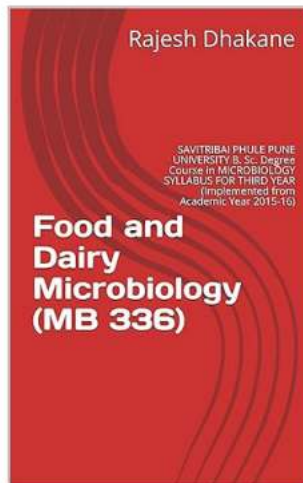
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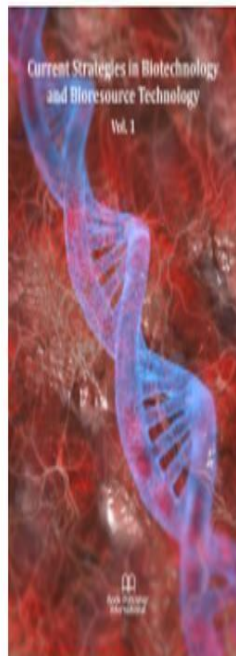




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Sudipta Banerjee ; G. R. Pathade; M. A. Mallick

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#### Abstract

*Piper longum* is a medicinal plant of great importance. The present work is to compare anticancerous, antibacterial and antioxidant properties of different explants (leaf and stem) of *Piper longum* *in vivo* and *in vitro*. The anticancerous activity was measured in terms of percentage cytotoxicity and the cell line used was leukemic cell line K562. *Escherichia coli*, *Bacillus subtilis* and *Staphylococcus aureus*, bacteria were used for determination of antibacterial activity. Solvent extracts were prepared from leaf and stem explants of *Piper longum* and their anticancerous, antibacterial and antioxidant activities were evaluated. Antioxidant activity was measured in terms of percentage (%) Total Phenolic Content (TPC) and percentage (%) 2,2-diphenyl 1-2-picrylhydrazyl (DPPH) radical scavenging capacity. The aqueous *Piper longum* fruit extract and rose geraniol ethyl





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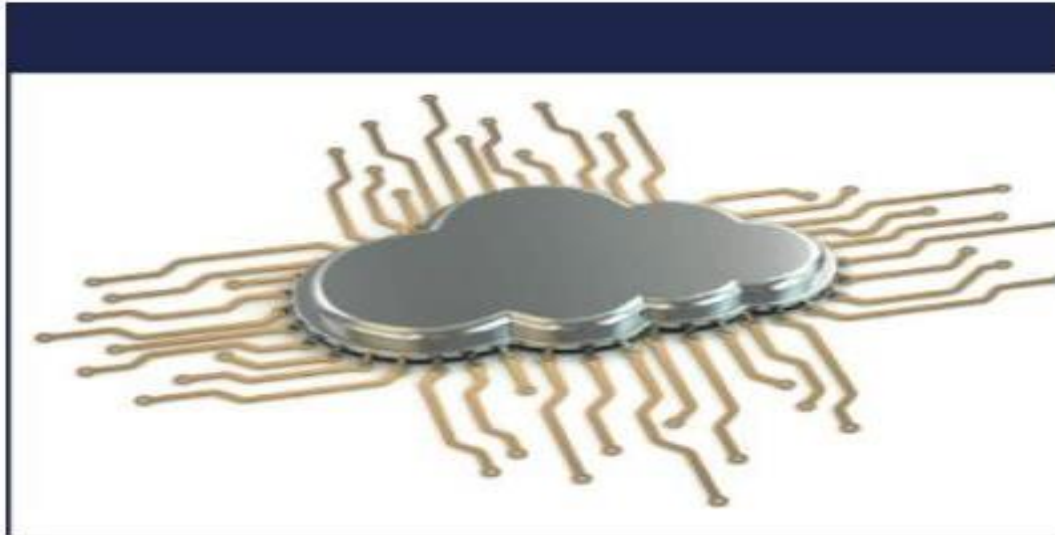
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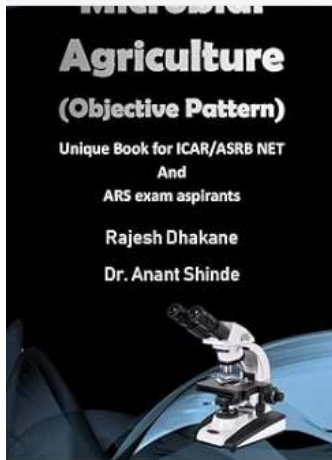
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#### **DEDICATION**

This book is dedicated to all those orphans across the world who are severely struggling for their bread and butter and have a problem with getting food two times a day. They live a life with the uncertainty of their life span. May nature bless them all!





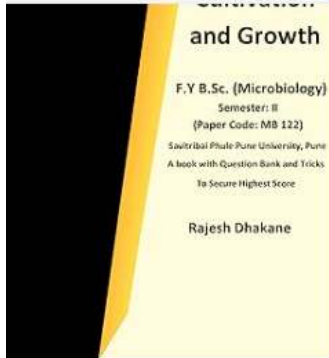
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As per syllabus by Savitribai Phule Pune University, Pune



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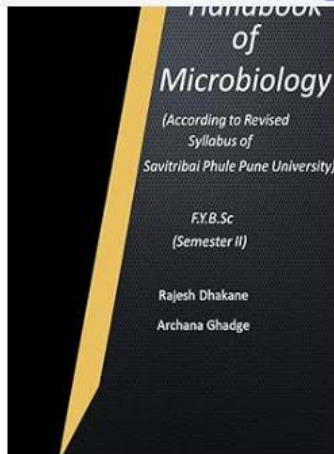
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Dear students, in science, the development of ideas, designing an experiment, performing it, and proposing suitable theory based on your findings is crucial. In academics, practical based work is a part of the research, and it is expected from students to work in this area scientifically. Sometimes, students are not getting a scientific demonstration of their practical course and hence take time to achieve research standards. The same problem is associated with all students in less or more quantity.

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