

**Shri Acharyaratna Deshbhooshan Shikshan Prasarak Mandal, Kolhapur**

# **Mahavir Mahavidyalaya, Kolhapur**

## **(Autonomous)**

**Affiliated to Shivaji University, Kolhapur**



## **Syllabus for National Education Policy (NEP 1.0)**

### **Microbiology SEC**

### **Bachelor of Science (B. Sc.) Programme**

<b>Part</b>	<b>II</b>	<b>Course</b>	<b>Microbiology SEC</b>
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### **Under the Faculty of Science & Technology**

(To be introduced from Academic Year 2024 – 25 onwards)

Subject to the revisions & modifications made from time to time

# **Mahavir Mahavidyalaya, Kolhapur (Autonomous)**

**Affiliated to Shivaji University, Kolhapur**

**(New syllabus under Autonomy to be introduced from June, 2024 onwards)**

<b>Primary Information:</b>			
Programme	<b>Bachelor of Science (B. Sc.) NEP 1.0</b>		
Part	<b>II</b>	Semester	<b>III</b>
Course	<b>Microbiology</b>	Course Code	
Paper No.	<b>II</b>	Course Type	<b>Semester</b>
Total Marks	<b>25 Marks</b>	Implementation	<b>2024 – 25</b>
Total Credits	<b>02</b>	Contact Hours	<b>02 / Week</b>
Course Title	<b>Analytical Microbiology</b>		

<b>Course Syllabus</b> (CR = Credits / IH: Instructional Hours)		
<b>Analytical Microbiology</b>	<b>CR 02</b>	<b>IH 30</b>
1. Demonstration of analytical instruments- i. pH meter ii. Spectrophotometer. 2. Estimation of protein by Biuret method 3. Estimation of carbohydrates by Molish methods. 4. Estimation of RNA by Orcinol method 5. Estimation of DNA by diphenyl amine method 6. Estimation of amino acids by Ninhydrine method 7. Dry weight analysis of bacterial cell mass by indirect method 8. Paper chromatography method 9. Thin layer chromatography		

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<b>Primary Information:</b>			
Programme	<b>Bachelor of Science (B. Sc.) NEP 1.0</b>		
Part	<b>II</b>	Semester	<b>IV</b>
Course	<b>Microbiology</b>	Course Code	
Paper No.	<b>II</b>	Course Type	<b>Semester</b>
Total Marks	<b>25 Marks</b>	Implementation	<b>2024 – 25</b>
Total Credits	<b>02</b>	Contact Hours	<b>02 / Week</b>
Course Title	<b>Microbial analysis of air and water</b>		

## **Microbial analysis of air and water**

1. Enumeration of bacteria from water by SPC method.
2. MPN of water
3. Enrichment of coliform from water by MacConkeys broth.
4. Presumptive test for coliform.
5. Total viable count of microorganisms present in water by membrane filter techniques
6. Total viable count of microorganisms present in air
7. Demonstration of presence of microflora in air by exposure of nutrient agar plates to the air.
8. Detection of coliform in water by using biochemical test. (IMViC)

**CR 02**

**IH 30**