



**Shobhit
University**

EDUCATION EMPOWERS

Babu Vijendra Marg, Adarsh Institutional
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247341, India
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COURSE FILE

Bacteriology and Virology

(B.Sc-MB302)

B.Sc (III Sem)

(Session 2024-2025)

Odd Semester



School of Biological Engineering & Sciences

**Shobhit University, Gangohi
Saharanpur**


Prof. Dr. Rajiv Datta, FRSB
Dean-Research and Dev.S
Shobhit University
Gangohi, UP-247341



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(2024-25)

Course Outcomes (COs)

Course Outcome:

After completion of the course the students should be able

CO 1: Describe the cell organization of bacteria i.e. morphology, ultrastructure and organelles present in bacterial cells.

CO 2: Apply the knowledge of bacteriological techniques.

CO3: Describe bacterial taxonomy and classification.

CO 4: Understand classification of viruses.

CO 5: Differentiate the nature of viruses.

Course Outcomes Mapping with POs and PSOs

COURSE OBJECTIVES AND MAPPING

ASSESSMENT LEVELS: 0 – NOT MAPPED; 1 – MAPPED AT WEAK LEVEL; 2 – MAPPED AT MODERATE LEVEL; 3 – MAPPED AT SATISFACTORY LEVEL

Course Outcomes Mapping with POs and PSOs

- 3 – Strong correlation
- 2 – Moderate correlation
- 1 – Weak correlations
- 0 – No correlation

CO	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
CO 1:	3	2	0	1	1	3	2	1	0	2	0	2	1	0	3
CO 2:	3	1	1	2	0	3	2	3	2	2	3	2	2	3	2
CO 3:	3	1	1	0	2	2	0	2	3	1	2	3	2	1	2
CO 4:	2	2	3	2	3	2	3	3	1	1	1	3	2	2	1
CO 5:	1	3	2	1	0	2	1	3	1	3	3	1	2	1	3
Avg.	2.4	1.8	1.4	1.5	1.2	2.4	1.6	2.4	1.4	1.8	1.8	2.2	1.8	1.4	2.2

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Prof. Dr. Rajiv Datta, P.
Dean, Research



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CO-PO Attainment

CO Attainment Calculations

	Direct Assessment		Direct Assessment 2 (ESE)	Indirect Assessment Students/ Faculty/Employer
	Direct Assessment 1 (CIA)			
	CIA1	CIA2		
Number of students who have scored more than target (P)	26	23	29	29
Percentage of students who have achieved the target = (P/N)*100	89.65	79.31	100	100
Attainment Level (3 for >80%, 2 for >70%, 1 for> 60%)	a = 3	b = 2	c = 3	d = 3
Attainment based on internal assessment (CIA) = Average CIA of (a and b);			= 2.5	
Direct CO Attainment Level (DA) =40% CIA + 60% End-Term (C);			= 2.8	= 0.4*2.5 + 0.6*3
Indirect CO Attainment Level (IA) (based on Exit Survey (d));			IA = 3	
80 % of DA			= 2.24	
20 % IA			= 0.6	
CO Attainment Level (COA) = 80 % DA+ 20 % IA;			COA = 2.84	

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	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO 1	PSO 2	PSO 3
Average Mapping(M)	2.4	1.8	1.4	1.5	1.2	2.4	1.6	2.4	1.4	1.8	1.8	2.2	1.8	1.4	2.2
PO / PSO Attainment Level*	2.27	1.7	1.32	1.42	1.13	2.27	1.51	2.27	1.32	1.7	1.7	2.08	1.7	1.32	2.08

$$* = \text{COA} \times \text{M} / 3$$


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PLAN OF ACTION TO IMPROVE CO ATTAINMENT NEXT TIME

Action taken to improve CO attainment

1. Syllabus for the courses will modify as per the requirements of the higher semester courses.
2. Teaching methods will restructure on the basis of feedback received from students.
3. Tutorial sessions for the courses will enhance.
4. More interactive sessions will plan for Net/ GATE.
5. Assignments and seminars will schedule and they are expected to study the real-world problems and give presentation about their ideas to solve them.



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