

Branch Name:	B.Sc. Microbiology
Program Code:	SC102
Course Name:	Virology
Course Code:	2SC1020622
Pre-requisite Course:	Basics of Cell biology

Course Objective: The course covers the details about the virus.

1. It includes general classification, cultivation, and enumeration of virus.
2. The bacteriophage, plant virus and animal virus must be studied.
3. The Course also provides the information about role of virus in cancer
4. It also discusses about the virus like particles prions and viroid.

Teaching and Examination Scheme:

Teaching Scheme (Hours per week)				Evaluation Scheme (Marks)				
Lecture (L)	Tutorial (T)	Practical (P)	Credit	Theory (Marks)		Practical (Marks)		Total (Marks)
				University Assessment	Continuous Assessment	University Assessment	Continuous Assessment	
2	--	--	2	35	15	--	--	50

Subject Contents:

Unit	Content	Lectures	Weightage
1	Nature and Properties of Viruses Introduction to virus,, Basic Principles of Viral taxonomy Structure of virus: Size, General Properties, Viral envelope and enzymes Viral Genome Viral Multiplication Cultivation, purification and assay of viruses Bacteriophage : Classification, one step multiplication curve, lytic and lysogenic phages (lambda phage) .	15	50%
2	Virus of Eukaryotes Animal Virus: Classification , Reproduction, Cytocidal effects and cell damage Plant Virus: Morphology, Taxonomy. Reproduction, Transmission Virus of Fungi and Algae and Virus of Insects Virus and Cancer Viriods and Prions	15	50%

Text Books:Text books:

1. Principles of Microbiology by Prescott
2. Michael Pelczar, text book of microbiology, 5th ed.
3. Microbiology by R.M.Atlas (1996).

Reference Books:

1. Madigan MT, and Martinko J M (2014). Brock Biology of Microorganisms. 14th edition. Prentice Hall International Inc.

2. Willey JM, Sherwood LM, and Woolverton CJ. (2013). Prescott's Microbiology. 9th edition. McGraw Hill Higher Education
3. Microbiology Powar and Dagainawala

List of Open Source Software/learning website:

<https://nptel.ac.in/courses/102103039>

https://onlinecourses.swayam2.ac.in/cec21_bt18/preview

<https://edurev.in/p/60230/NPTEL--Biotechnology--General-Virology->

Course Learning Outcomes (CLO): On completion of this course, the students will be able to:

CLO	Description	Bloom's Taxonomy Level
CLO1	Learn virus classification and its structure	1 Remember 2 Understand
CLO2	Basically, understand the factors responsible for pathogenicity of virus	2 Understand 3 Apply
CLO3	Apply and explore the area of cultivation and enumeration of virus	3Apply
CLO4	Analyze various types and effects caused by virus in plants animal and bacteria	4 Analyze
CLO5	Think critically about	5 Evaluate
CLO6	The Student would understands understand the process and mechanism of cancer and various disease caused by virus so that a treatment process can be designed	2 Understand 6 Create

Mapping of CLOs with POs & PSOs

Course Learning Outcomes	Program Outcomes (POs)									Program Specific Outcomes (PSOs)		
	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PSO1	PSO2	PSO3
CLO1	M	M				M		M				
CLO2	H	H	M		M			L	M			
CLO3	M	M	H					M	M		M	
CLO4	M				M				H	M		
CLO5	M		H		M					H		
CLO6				H		M	H		H		H	M

L= Low M= Medium H= High