

Programme: M.Sc. (Microbiology)

Course Code: MIO 101

Title of the Course: MEDICAL VIROLOGY [T]

Number of Credits: 3

Effective from Academic Year: 2018-19

Prerequisites	The student should have basic understanding of viruses.	
Objective:	This course develops concepts in structure, classification, cultivation, assay and pathogenesis of disease-causing viruses.	
Content:		
1.	Virus: Structure, Cultivation and Assay	(12)
1.1	Viruses	
A.	Introduction.	
B.	Visualization by electron microscopy.	
C.	Structure: envelope, capsid, nucleic acid.	
D.	Defective viruses.	
E.	Classification.	
1.2	Viral genome	
	Genomic diversity - DNA or RNA, segmented or non-segmented.	
1.3	Cultivation and assay of viruses	
A.	Cultivation - <i>in vitro</i> using cell cultures: primary, secondary cultures, cell lines. - <i>in ovo</i> using chick/duck egg embryo. - <i>in vivo</i> using experimental animals	
B.	Viral multiplication and interference.	
C.	Assay by physical methods and by infectivity and cultivation methods Detection by plaque, pock, polykaryocytes, haemadsorption, immunofluorescence, cytopathogenicity, tumor formation.	
2.	Viral Diseases	(12)
2.1	Viral agents of disease: structure, mode of replication and pathogenesis Picornavirus: Enteroviruses (polio) and rhinoviruses (upper respiratory tract); Herpes group: Herpes simplex, Herpes zoster, Cytomegalovirus, Epstein Barr virus. Hepatitis (A, B, C, D, E); HIV; Orthomyxoviruses: Influenza. Paramyxoviruses: Mumps and Measles; Arboviruses: Togavirus - Rubella; Rhabdovirus: Rabies; Corona Virus: SARS. Emerging viral agents of disease.	
2.2	Oncogenic viruses DNA viruses: Papova and Adeno viruses, Herpes EBV and HCV. Retrovirus.	

3.	Antiviral Combat	(12)
3.1	Virus-Host interactions. Host specific and nonspecific defense mechanisms; neutralizing antibodies; interferon.	
3.2	Viral vaccine development and viral chemotherapy. Traditional vaccine preparations and newer methods - molecular approach	
Pedagogy:	Lectures/tutorials/assignments/self-study	
References/Readings	Davis, B. D., Dulbecco, R., Eisen, H. N. and Ginsberg, H. S., Microbiology, Harper and Row Publishers.	
	Microbiology and Immunology - Online, Department of Pathology, Microbiology and Immunology, University of South Carolina School of Medicine.	
	White, D. O., Fenner, F., Medical Virology, Gulf Professional Publishing.	
	Cohen, A., Medical Virology, John Wiley & Sons, Incorporated.	
	Evans, B., Perspectives in Medical Virology, Volume 1, Elsevier.	
	De La Maza, L. M., Peterson, E. M., Springer Science & Business Media.	
Learning Outcomes	Explain morphology, mode of infection, multiplication of medically important viruses and their treatment.	

Paper code: **MIO 101** Paper name: **Medical Virology**

Paper offered by: **Microbiology Programme**, School of Biological Sciences and Biotechnology

Names of the students from other disciplines opting for the paper

M.Sc. Biotechnology	
Seat No.	Name of the student
21P047002	Bhomkar Shreesiddhi Vinod
21P047005	Kamat Saishree Pratap
21P047006	Marathe Vrushali Vaman
21P047007	Samradny Narayan Phadte
21P047010	Pai Shreya Prakash
21P047011	Pendse Manasi Pramod
21P047012	Raikar Mrugnayni Mahesh
21P047015	Riya Moreshwar Potfode
21P047017	D' Costa Selcea Savia
M.Sc. Marine Biotechnology	
Seat No.	Name of the student
21P050003	Aditi Tripathi
21P050007	Dixit Pooja Pramod
21P050009	Gaikwad Sanjana Sanjiv
21P050011	Himanshi
21P050012	Lovely Anand
21P050013	Manas Upadhyay
21P050014	Mayuri Brijbhushan Singh
21P050019	Samuel Singh
21P050021	Geetanjali Sahu
M.Sc. Botany	
Seat No.	Name of the student
21P0480005	Ninoshka Costa
21P0480017	Vaishnavi Malik
21P0480018	Anna Oliveira

M.SC. MICROBIOLOGY
Academic year 2022-2023
Schedule for M.Sc. Microbiology Part II Semester III (w.e.f 15/06/2022)

Schedule for M.Sc. Microbiology 1st Year Semester 2024						
Time	10:00 – 12:00	12.30-13.30	13.30-14.30	14.30-15.30	15.30-16.30	16.30-17.30
Mon	Practical (Batch 1 and Batch 2)	NET/SET Coaching	L U N C H B R E A K	MIO 108 Genetic Engineering [T] (JN)		MIO118 Food Microbiology [T] (LG)
Tue	Practical (Batch 1 and Batch 2)	Library / Dissertation		MIO 112 Extremophilic Microorganisms [T] (MN)		MIO114 Research Methodology [T] (TA)
Wed	Practical (Batch 1 and Batch 2)	Library / Dissertation		MIO 112 Extremophilic Microorganisms [T] (TA)	MIO 108 Genetic Engineering [T] (BS)	ZOO 328 Fish Processing [T] (AD)
				ZOO 336 Wildlife Conservation [T] (NS)	ZOO 336 Wildlife Conservation [T] (NS)	
Thu	Practical (Batch 1 and Batch 2)	NET/SET Coaching		MIO 101 Medical Virology [T] (JN)		ZOO 336 Wildlife Conservation [T] (NS)
Fri	Practical (Batch 1 and Batch 2)	NET/SET Coaching		MIO118 Food Microbiology [T] (LG)		MIO 101 Medical Virology [T] (SG)
Saturday Reserved for Extra Classes						
	9:30-10:30	10:30-11:30	11:30-12:30	14:00-15:00	15:15-16:15	16:30-17:30
Sat	MIO 112 Extremophilic Microorganisms [T] (MN/TA)	ZOO 328 Fish Processing [T] (AD)		MIO 101 Medical Virology [T] (JN/SG)	MIO 108 Genetic Engineering [T] (JN/BS)	MIO118 Food Microbiology [T] (LG)

Students should carry out their dissertation work when they have no scheduled class.

Note1) : Those who have opted for dissertation should carry out their dissertation work when they have no scheduled class.

2) The practical schedule will be issued separately.

3) Students are advised to register for classes on Google Classroom.

4) Faculty of Microbiology are involved in teaching ESO 304 Environmental Microbiology for M.Sc. in Environmental Science (SEOAS) at 11:40-12:40 (Monday) and 3:05-5:15 (Friday) in Microbiology classroom 3.

Dr. Lakshany Charya
Programme Director,
Microbiology SBSB

Dr. S. Ghadi
Vice-Dean (Academic), SBSB

Prof. Savita Kerkar
Dean, SBSB

Department of Microbiology (SSB)
 Paper Microbiology (Medical Microbiology)
 (No.) _____ (Title) _____

GOA UNIVERSITY

ATTENDANCE SHEET

Class : M.A. / M.COM/M.C.A. / M.M.S. / M.SC./Part II Part II
 Academic Year 2022-23 SEM III
 Term I / II / Months
 Total number of lectures delivered by the teacher 28

Teacher's Name Dr. Indira Nasaoka

Date of Lectures	23/05/22	30/06/22	06/07/22	13/07/22	20/07/22	27/07/22	03/08/22	10/08/22	17/08/22	24/08/22	31/08/22	07/09/22	14/09/22	21/09/22	28/09/22	05/10/22	12/10/22	19/10/22	26/10/22	Total	Remarks
Time of Lectures																					
No. of lectures delivered	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		
Sr. No.																					
Name of the Students																					
Shiravani R. Madkani	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Prachi Vishwakarma	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Akshama A. Naik	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Kunjilata S. Naik	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Srinivas A. Rodrigues	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Erinor G. Pires	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Shruti P. P. Pires	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Shruti G. Thakur	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Sudhi D. N. N. N. N.	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Tigavari D. Gaekwad	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Rhutha Ramesh Naik	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Pooja Dixit	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Konny Anand	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Ashik Inpatw	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Samuel Singh	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Misha Delfia Cardoso	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Mayuri Singh	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Munuganvi M. P. P.	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Manasi P. Pendse	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Vishakha K. K.	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Tanvi O. Gaude	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Pooja P. P.	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Shikha T. Gaude	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Ashwita A. Naik	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89	89		
Signature of the Teacher																					
Signature of the Head of Dept.																					

NOTE: (a) The students shall put their signatures against their respective names at every lecture / class

Department of Nicebiology
 Paper MID 101 (Medical Virology)

(No.) _____ (Title) _____

GOA UNIVERSITY

ATTENDANCE SHEET

Class : M.A. / M.COM/M.C.A. / M.M.S. / M.SC./Part II / Part II
 Academic Year 2022-23
 Term I / II / Months _____
 Total number of lectures delivered by the teacher during the term / Months 28

Teacher's Name	Dr. Studia Novada														Total	Remarks
Date of Lectures	28/6	30/6	02/7	04/7	06/7	11/7	12/7	14/7	15/7	18/7	19/7	20/7	22/7	24/7	25/7	26/7
Time of Lectures																
No. of lectures delivered	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Name of the Students																
Sr. No.																
Vaidhavi Malik-21PO48017	Present	A	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Nimalka Costa-21PO48005	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Yadavjee Sant-21PO48001	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Nikita Mendes-21PO48012	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Snehal Babi-21PO48003	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Sanjay S. Chaudhan-21PO48003	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Shamatha V Rao-21PO48001	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Saihuve Kamat-21PO48005	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Himanshi Upadhyay-21PO50011	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Shreevidhi Bhanwar-21PO48002	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Priya Patfede	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Selva Sauri-21PO48017	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Yagnna Gokund	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Sowdhy Radit-21PO48007	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Shreya Pai-21PO48010	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Manas Upadhyay-21PO50013	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Tejash Gokar-21PO48004	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Gulrajali Sahu-21PO50021	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present	Present
Signature of the Teacher																
Signature of the Head of Dept.																

NOTE: (a) The students shall put their signatures against their respective names at every lecture / class