



Hindi Vidya Prachar Samiti's

Ramniranjan Jhunjhunwala College

of Arts, Science & Commerce

(Empowered Autonomous College)

Affiliated to

UNIVERSITY OF MUMBAI

Syllabus for the B.Sc.

Program: B.Sc. Medical Laboratory Technology

Program Code: RJSUMLT

National Education Policy (NEP 2020)

Level 4.5

(BSc MLT 2023-2024)

SEMESTER	:	IV
TITLE	:	MAJOR I
TITLE OF THE SUBJECT/COURSE	:	CLINICAL PATHOLOGY – 1
COURSE CODE	:	RJMAJMLT411
CREDITS	:	03
DURATION	:	45 hrs

LEARNING OBJECTIVES	
1	Define pathology, terminologies in pathology and the sub-divisions of pathology.
2	Know, understand and explain the molecular mechanisms of cell damage, cell response (cellular stress, necrosis, apoptosis) and organism response to the damage (inflammation), and the molecular basis of neoplastic transformation.

Course Outcome No.	On completing the course, the student will be able to:	PSO Addressed	Bloom's Levels
CO1	To understand the techniques to study pathology.	1, 2	BT level 1 & 2
CO2	To understand the basics of general pathology, homoeostasis and haemodynamics.	1, 2	BT level 1 & 2
CO3	To understand the different diseases caused by bacteria, virus, fungi and parasites.	1, 2	BT level 1 & 2

SYMLT Semester IV			
Course Code: RJMAJMLT411		Title: Clinical Pathology – 1	Credits
Unit	Unit Name	Topics	3
I	Clinical Pathology - 1	Introduction to Pathology, Techniques for the Study of Pathology, Cell Injury and Cellular Adaptations, Immunopathology including Amyloidosis, Derangement of Homeostasis and Haemodynamics, Inflammation and Healing, Infectious and Parasitic Diseases, Neoplasia	3
References: <ul style="list-style-type: none"> The Textbook of Pathology---By Harsh Mohan 			

SEMESTER	:	IV
TITLE	:	MAJOR II
TITLE OF THE SUBJECT/COURSE	:	Virology, Mycology and Cytology
COURSE CODE	:	RJMAJMLT412
CREDITS	:	03
DURATION	:	45 hrs

LEARNING OBJECTIVES	
1	Define virology, mycology and cytology.
2	Explain various sampling techniques in cytology.
3	Explain the concept of Mycology and the protocol to be observed for laboratory diagnosis of fungi.

Course Outcome No.	On completing the course, the student will be able to:	PSO Addressed	Bloom's Levels
CO1	Understand about clinical virology, various types of viruses, and major diseases caused by these viruses.	1, 10	BT level 1, 2 & 3
CO2	Describe various cytological techniques.	1, 10	BT level 1, 2 & 3
CO3	Identify and describe the process for culturing and diagnosis of various parasitic fungi.	1, 10	BT level 1, 2 & 3

SYMLT Semester IV			
Course Code: RJMAJMLT412		Title: Virology, Mycology and Cytology	Credits
Unit	Unit Name	Topics	3
I	Clinical Virology	Introduction to Virus, Useful Definitions in Virology, Virus Classification, General Characteristics Common to Viruses, Cultivation of Viruses, DNA Containing Viruses, RNA Containing Viruses, General Transmission Routes for Viruses, Viral Vaccines, Various types of viruses and their Laboratory Diagnosis.	1.5
II	Cytological Techniques and Clinical Mycology	Introduction to Cytological Techniques, Differentiation between Normal and Abnormal Cells, Sampling Techniques in Cytology, Various types of Specimens and Requirements for, Cytological Studies, Cytological Tests, Fixation of Cytological Smears, Cytocentrifuge Process, Liquid Based Cytology (LBC). Introduction to Mycology, Parasitic Fungi, Laboratory Diagnosis of Mycotic Infections, Laboratory Culture, Detection and Identification of Fungi by PCR Technology, Case Histories.	1.5
References: <ul style="list-style-type: none"> Textbook of Medical Laboratory Technology—by P. B. Godkar 			