



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 Imaging Technology

Program Code: RJSUMIT

National Education Policy (NEP 2020)

SEMESTER	:	IV
TITLE	:	MAJOR I
TITLE OF THE SUBJECT/COURSE	:	MRI System and Components
COURSE CODE	:	RJMAJMIT411
CREDITS	:	03
DURATION	:	45 hrs

LEARNING OBJECTIVES	
1	To study physics of MRI.
2	To learn about types of magnets, coils and parts of MRI scanner

Course Outcome No.	On completing the course, the student will be able to:	PSO Addressed	Bloom's Levels
CO1	Use appropriate coils in MRI scans.	1, 2	BT level 1 & 2
CO2	Use appropriate magnetic principles in MRI scanning.	1, 2	BT level 1 & 2
CO3	To perform MRI scans using appropriate pre procedures.	1, 2	BT level 1 & 2

SYMIT Semester IV			
Course Code: RJMAJMIT411		Title:	Credits
Unit	Unit Name	Topics	3
I	MRI Physics	MRI Image formation, precession frequency, larmor frequency, nuclei spin and other parameters, artifacts, remedies for artifacts, MRI sequences	
II	Components, coils and magnets	Gantry Magnets - permagnet, superconducting, resistive Coils - surface, volume, shim, gradient Cardiac gating	3
References: <ul style="list-style-type: none"> • MRI Made Easy - Govind B Chavan 			

SEMESTER	:	IV
TITLE	:	MAJOR II
TITLE OF THE SUBJECT/COURSE	:	Interventional Radiology
COURSE CODE	:	RJMAJMIT412
CREDITS	:	03
DURATION	:	45 hrs

LEARNING OBJECTIVES	
1	To learn pre procedural techniques and consent procedures.
2	To manage the cath lab requirements and set up before procedure.
3	To assist the interventional radiologist by C arm imaging parameters.

Course Outcome No.	On completing the course, the student will be able to:	PSO Addressed	Bloom's Levels
CO1	Assist the interventional radiologist. Set up the cath lab before procedures.	1, 10	BT level 1, 2 & 3
CO2	Assist radiologist in biopsies.	1, 10	BT level 1, 2 & 3
CO3	Perform the techniques with utmost care and with appropriate consent.	1, 10	BT level 1, 2 & 3

SYMIT Semester IV			
Course Code: RJMAJMIT412		Title:	Credits
Unit	Unit Name	Topics	3
I	Angiographic procedures and biopsy	Angiography, angioplasty (coronary) Peripheral angiography Cathlab procedures Biopsies in radiology	1.5
II	Pre procedural techniques	HHH tests BP, HR, SpO2 Serum creatinine, contrast pre-procedure Contrast parameters Lead shielding	1.5
References: <ul style="list-style-type: none"> Interventional Radiology by David Kessel 			