

Subject Code : 2FM0020101	Subject Title : X-Ray Technician-Theory
Pre-requisite Subject	

Course Objectives:

Teaching Scheme (Hours per week):

Subject Code	Subject Name	Teaching Scheme (Hrs/Week)			UA		IA	
		L	P	Total	Max	Min	Max	Min
2FM0020101	X-Ray Technician-Theory	8	-	8	75	30	25	10

L = Lecture

P = Practical

UA = University Assessment

IA = Internal Assessment

Syllabus: (Topics) :

Windows Introduction – Operating System - Desk Top Icons – My Computer, Recycle Bin, Internet Explorer, Network Neighborhood, My documents. Working with Windows – How to create a Folder, Copying and cutting files, Renaming - Start Icon – Programs, Favorites, Documents, Settings, Find, Run, Shutdown - Application Icons. Basics of Ms Office

Elementary Mechanics - Newton's Laws - Introduction: A Bit of History and Philosophy - Dynamics - Coordinates -Newton's Laws - Forces - The Forces of Nature - Force Rules - Force Balance - Static Equilibrium

Introduction-Radiation physics terminology & units-Primary radiation fields-Theory of radiation transport-General consideration of radiation transport-The Boltzmann equation-The monte Carlo method- magnetic deflection of charged particles

Abbreviation- Meaning of the anatomy and physiology- Level of structural organization of the body- Anatomic terminologies- Body planes and sections- body cavities.

Cell: plasma membrane,cytoplasm,organelles-Cell inclusion-Cells out of control-
Tissue:epithelialtissue,glandularepithelium,connective tissue-Muscle tissue-Nervous tissue.

The integumentary system-The skeleton system-The muscular system-The nervous system-The endocrine system

The cardiovascular system-The respiratory system-The digestive system-The urinary system

Fluid and electrolyte balance-The reproductive system

General anatomy-Structural organisation-Systematic antomy-Body system-Skeletal antomy-Osteology

- Radiation Hazards
- Radiation Safety Measures
- Dark Room Techniques
- C R (Computerized Radiography)
- D R (Digital Radiography)

- Basics of Ultrasound, CT Scan & MRI

Reference Books :

1. Diagnostic Radiology and Imaging - Kakarla Subbarao, Samir Banerjee, Sudharshan K Aggarwal, Satish K Bhargava
2. Fundamentals of Computers - Mohammad Amjad Manaullah Abid
3. BD Chaurasia's Handbook of General Anatomy
4. Human Anatomy and Physiology with Solved Question - Asha Yadav
5. CLARK'S Positioning in Radiography- A. Stewart Whitley, Charles Sloane, Graham Hoadley, Adrian D Morre, Chrissie W Alsop
6. Donald School Textbook of Ultrasound in Obstetrics & Gynecology - Asim Kurjak, Frank A Chervenak
7. Pocket Atlas of Dental Radiology - Friedrich A. Pasler, Heiko Visser
8. Essentials of Skeletal Radiology- Terry R. Yochum, Lindsay J. Rowe
9. CT and MRI of the Whole Body- John R. Haaga, Vikram S. Dogra, Michael Forsting, Robert C. Gilkeson, Hyun Kwon Ha, Murali Sundaram
10. Practical Pediatric Radiology- Hilton
11. Diagnostic Radiology, Chest and Cardiovascular Imaging- Manorama Berry, Sima Mukhopadhyay, Sudha Suri
12. Diagnostic Radiology, Hepatobiliary and Gastrointestinal Imaging- Manorama Berry, Veena Chaowdhury, Sudha Suri
13. Diagnostic Radiology, Urogenital Imaging-Manorama Berry, Sushma Vashisht, Veena Chaowdhury

Subject Code : 2FM0020102	Subject Title : X-Ray Technician -Practical
Pre-requisite Subject	

Course Objectives:

Teaching Scheme (Hours per week):

Subject Code	Subject Name	Teaching Scheme (Hrs/Week)			UA		IA	
		L	P	Total	Max	Min	Max	Min
2FM0020102	X-Ray Technician -Practical	-	22	22	75	30	25	10

L = Lecture

P = Practical

UA = University Assessment

IA = Internal Assessment

Syllabus: (Topics) :

- Positioning in Radiography
- Various Diagnostic Radiological Procedures.
- Basic of X-Ray, C.T.Scan & M.R.I (Merits & Demerits)
- Basic of Ultrasound - Merits & Demerits
- Understanding of PC PNDT Act.
- AERB - Rules, Regulations, Norms