

### Bachelor of Medical Radiology and

Program Name **Imaging Technology**

Course Name **Human Anatomy I**

Course Code **RD3101**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to learn about Terminology, General Planes, Body Cavities and Their Membranes.	1	S
<b>CO2</b>	Students will be able to study about cells, tissue, and the integumentary system of human body.	2	S
<b>CO3</b>	Students will be able to know about Introduction of Musculoskeletal System: Basic anatomy of muscles and bones.	2	S
<b>CO4</b>	Students will be able to study the basic anatomy of respiratory system and its clinical disorders.	2	S
<b>CO5</b>	Students will be able to learn basic anatomy of esophagus, stomach, small & large intestine, liver, Gall bladder, pancreas.	1	S

Course Name **Basics of Human Physiology- I**

Course Code **RD3106**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to learn about basic physiology of cells & tissues and their distribution in human body	1	Emp
<b>CO2</b>	Students should be able to learn about digestive system and their disorders	2	Emp
<b>CO3</b>	Students should be able to learn about circulatory system and its working	2	Emp

<b>CO4</b>	Students should be able to learn about basic physiology of excretory system	2	Emp
<b>CO5</b>	Students should be able to learn about the mechanism of respiratory system in the human	2	Emp

Course Name **Radiation Physics**

Course Code **RD3104**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to study the basic structure of Atom and Radioactivity, laws of radioactivity.	3	Emp
<b>CO2</b>	Students will be able to Learn about electromagnetic radiation.	2	Emp
<b>CO3</b>	Students will be able to study about electricity, magnetism, and electromagnetism.	3	Emp
<b>CO4</b>	Students will be able to Learn about x-ray imaging system and its image quality factors.	3	Emp
<b>CO5</b>	Students will be able to study about x-rays circuits and its components.	3	Emp

Course Name **Environmental Studies**

Course Code **CY3205**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to understand about issues related to the environment and their impact on human life.	3	S
<b>CO2</b>	Students will be able to understand about the solutions related to the environmental problems.	2	S

<b>CO3</b>	Students will be able to understand about different components of the environment and their function and sustainable development.	3	S
<b>CO4</b>	Students will be able to Comprehend the importance of ecosystem and biodiversity	3	S
<b>CO5</b>	Students will be able to correlate the human population growth and its trend to the environmental degradation	3	S

Course Name **Human Anatomy- I Lab**

Course Code **RD3140**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about Major organs through models and permanent slides	1	Emp
<b>CO2</b>	Students will be able to study about Parts of Circulatory system from models.	2	Emp
<b>CO3</b>	Students will be able to study about Parts of respiratory system from models.	3	Emp
<b>CO4</b>	Students will be able to learn about Digestive system from models	2	Emp
<b>CO5</b>	Students will be able to learn about Excretory system from models.	3	Emp

Course Name **Basics of Human Physiology- I Lab**

Course Code **RD3143**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>

<b>CO1</b>	Students will be able to learn about measurement of pulse rate, blood pressure &	1	Emp
<b>CO2</b>	Students will be able to learn about Measurement of the Vital capacity & determination of blood Groups	2	Emp
<b>CO3</b>	Students will be able to learn about transport of food through esophagus, Bile juice secretion and excretion & Urine formation and excretion	2	Emp
<b>CO4</b>	Students will be able to learn about determination of blood group	1	Emp
<b>CO5</b>	Students will be able to learn about Calculation and evaluation of daily energy and nutrient intake.	3	Emp

Course Name **Biochemistry Lab**

Course Code **ND3144**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about Demonstration of Blood Collection & Anticoagulation	1	Emp
<b>CO2</b>	Students will be able to learn about Demonstration of Lab Glassware & Normal solution	2	Emp
<b>CO3</b>	Students will be able to learn about Demonstration of Acids, Alkalis & Acid-Base Indicator	3	Emp
<b>CO4</b>	Students will be able to learn about Kidney function tests, Urea and Creatine values	1	Emp
<b>CO5</b>	Students will be able to learn about Liver function Tests	1	Emp

Course Name **Human Anatomy- II**

Course Code **RD3201**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to learn the basic anatomy of cardiovascular system and clinical disorders	3	Emp
CO2	Students will be able to study the basic anatomy of brain and spinal cord, meninges, and cerebrospinal fluid.	2	Emp
CO3	Students will be able to know about the Endocrine System: Anatomy of Pituitary, Thyroid, Parathyroid, Pancreas, Adrenal glands.	2	Emp
CO4	Students will be able to study the basic anatomy of special senses.	3	Emp
CO5	Students will be able to study the basic anatomy of Genitourinary organs and reproductive system.	2	Emp

Course Name **Basics of Human Physiology- II**  
Course Code **RD3206**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to learn the physiology of excretory organs.	3	Emp
CO2	Students will be able to study about muscle nerve physiology and types of muscles.	2	Emp
CO3	Students will be able to know about Introduction of Nervous system i.e.: general organization of CNS and ANS.	1	Emp
CO4	Students will be able to study about endocrine system and its clinical disorders.	1	Emp

<b>CO5</b>	Students will be able to study about reproductive system and its clinical disorders.	2	Emp
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Course Name **Radiographic Positioning- I**

Course Code **RD3203**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn the basic and special projections of cranial and facial bones.	3	Ent
<b>CO2</b>	Students will be able to learn the basic and special radiographic Positioning of neck- AP, LAT with its radiological anatomy.	2	Ent
<b>CO3</b>	Students will be able to learn the basic and special radiographic Positioning of routine thorax- AP, LAT with its radiological anatomy.	1	Emp
<b>CO4</b>	Students will be able to learn the basic and special radiographic positioning of abdomen with its radiological anatomy.	2	Emp
<b>CO5</b>	Students will be able to learn the basic and special radiographic positioning of KUB with its radiological anatomy	1	Emp

Course Name **Fundamentals of Computer Applications**

Course Code **CS3102**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn the architecture of computer.	1	Emp

<b>CO2</b>	Students will be able to study the arithmetic of computer.	2	Emp
<b>CO3</b>	Students will be able to study the algorithms and flow chart of computer.	3	Emp
<b>CO4</b>	Students will be able to study about disk operating study and its Dos commands.	3	Emp
<b>CO5</b>	Students will be able to learn about hardware of windows concepts.	2	Emp

Course Name **Human Anatomy-II Lab**  
Course Code **RD3240**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about Nervous system from models.	1	Emp
<b>CO2</b>	Students will be able to understand about Structure of eye and ear	2	Emp
<b>CO3</b>	Students will be able to know about Structural differences between skeletal, smooth, and cardiac muscles.	3	Emp
<b>CO4</b>	Students will be able to know about Various bones and joints of body	2	Emp
<b>CO5</b>	Students will be able to understand about Various parts of male & female reproductive system from models	1	Emp

Course Name **Radiographic Positioning- I Lab**  
Course Code **RD3242**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
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<b>CO1</b>	Students will be able to learn about Cranial bones Basic & special projections and Related radiological Pathology	3	Emp
<b>CO2</b>	Students will be able to learn about facial bones Basic & special projections and Related radiological Pathology	2	Emp
<b>CO3</b>	Students will be able to learn about neck Basic & special projections and Related radiological Pathology	3	Emp
<b>CO4</b>	Students will be able to learn about Thorax Basic & special projections and Related radiological Pathology	1	Emp
<b>CO5</b>	Students will be able to learn about Abdomen Basic & special projection	2	Emp

Course Name **Basics of Human Physiology- II Lab**  
Course Code **RD3243**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to perform total platelet count.	2	Emp
<b>CO2</b>	Students will be able to perform bleeding time and clotting time.	3	Emp
<b>CO3</b>	Students will be able to study about CSF examination.	1	Emp
<b>CO4</b>	Students will be able to study about intrauterine contraceptive devices	3	Emp
<b>CO5</b>	Students will be able to demonstrate microscopic structure of bones & muscles with permanent slides.	2	Emp

Course Name **Fundamentals of Microbiology- II Lab**  
Course Code **BL3241**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to learn Cleaning of glass wares, LAF & preparation of culture medias.	3	Emp
<b>CO2</b>	Students will be able to learn about Biomedical waste, Hot air oven & Disinfectants.	2	Emp
<b>CO3</b>	Students will be able to learn about Sterilization methods, & Various Microbiology testing's.	3	Emp

**Fundamentals of Computer Applications -**

Course Name **Lab**  
Course Code **CS 3141**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to learn about Dos Commands Internal - DIR, MD, CD, RD,	1	Emp
<b>CO2</b>	Students will be able to learn about Dos Commands Internal COPY, DEL, REN, CHKDSK, XCOPY, PRINT	2	Emp
<b>CO3</b>	Students will be able to learn about Dos Commands Internal VOL, DATE, TIME, CLS, PATH, TYPE	3	Emp
<b>CO4</b>	Students will be able to learn about FORMAT, SORT, FDISK	2	Emp
<b>CO5</b>	Students will be able to learn about ATTRIB HELP, SYS	3	Emp

Course Name **Disaster Preparedness & Management**  
Course Code **CE3102**



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Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to understand about issues related to the environment and their impact on human life.	3	S
<b>CO2</b>	Students will be able to understand about the solutions related to the environmental problems.	2	S
<b>CO3</b>	Students will be able to understand about different components of the environment and their function and sustainable development.	3	S
<b>CO4</b>	Students will be able to Comprehend the importance of ecosystem and biodiversity	3	S
<b>CO5</b>	Students will be able to correlate the human population growth and its trend to the environmental degradation	3	S

Course Name **Indian Knowledge System**  
Course Code **HU3201**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	The students will be able to understand the Indian Knowledge System such as historical development, sources and scope.	2	S
<b>CO2</b>	The students will be able to understand the vocabulary system of Indian knowledge system.	2	S
<b>CO3</b>	The students will be able to understand and apply the philosophical foundations and methods of IKS.	3	N

<b>CO4</b>	The students will be able to execute the case studies based on the Indian knowledge system.	3	N
<b>CO5</b>	The students will be able to understand the influence of Indian Knowledge System on world.	2	S

Course Name **Radiographic Positioning- II**

Course Code **RD3301**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to Learn about patient positioning for Upper and lower Extremities	1	Emp
<b>CO2</b>	Students will be able to Learn about imaging of Shoulder joint	1	Emp
<b>CO3</b>	Students will be able to Know about imaging of Pelvic Girdle and proximal Femur	2	Emp
<b>CO4</b>	Students will be able to Know about Whole Spine Positioning techniques	2	Emp
<b>CO5</b>	Students will be able to learn about Pediatrics radiography	3	Emp

Course Name **Conventional Radiographic Techniques I**

Course Code **RD3302**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to Know about Introduction to Radiologic Imaging	2	Emp

<b>CO2</b>	Students will be able to Know about X-ray production and its properties	3	Emp
<b>CO3</b>	Students will be able to Know about The Recording System in radiographic imaging	1	Emp
<b>CO4</b>	Students will be able to learn about Processing of Latent image	2	Emp
<b>CO5</b>	Students will be able to learn about Fluoroscopy techniques and IITV	2	Emp

Course Name **Basics of USG and Mammography**  
Course Code **RD3303**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about Basic principle of Ultrasound imaging	2	Emp
<b>CO2</b>	Students will be able to learn about Instrumentation of Ultrasonography	3	Emp
<b>CO3</b>	Students will be able to learn about USG Display modes: A mode, B mode, M mode	2	Emp
<b>CO4</b>	Students will be able to learn about Doppler USG and Mammography techniques	3	Emp
<b>CO5</b>	Students will be able to Know about Clinical Practice of Ultrasonography	2	Emp

Course Name **Special Radiographic Procedure**  
Course Code **RD3304**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about special radiographic procedures	2	Emp

<b>CO2</b>	Students will be able to Know about barium studies	3	Emp
<b>CO3</b>	Students will be able to learn about Routine Special Examinations	2	Emp
<b>CO4</b>	Students will be able to learn about Spine and Hepatobiliary Exams	3	Emp
<b>CO5</b>	Students will be able to learn about Sialography, Dacrocystography, Sinogram, Fistulogram, FNAC, Biopsy	2	Emp

**Medical Microbiology (Bacterial Pathogens & associated Diseases)**

Course Name

**BL3303**

Course Code

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to understand theories and concepts of microorganisms.	1	Emp
<b>CO2</b>	Students will be able to understand microscope, its components and maintenance.	2	Emp
<b>CO3</b>	Students will be able to learn to describe the morphology of eukaryotic and prokaryotic cells.	2	Emp
<b>CO4</b>	Students will be able to apply microscopy to study basic features of microorganisms.	2	Emp
<b>CO5</b>	Students will be able to analyze different stains and staining techniques	1	Emp

Course Name

**Special Radiographic Procedure Lab**

Course Code

**RD 3341**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>

<b>CO1</b>	Students will be able to perform all special radiographic procedures done with using contrast media.	2	Emp
<b>CO2</b>	Students will be able to learn about Barium procedures with its pros. and cons.	1	Emp
<b>CO3</b>	Students will be able to perform all routine radiographic procedures related to its clinical diagnosis.	2	Emp
<b>CO4</b>	Students will be able to perform all spine and hepatobiliary procedures related to its clinical diagnosis.	3	Emp
<b>CO5</b>	Students will be able to learn about FNAC procedures with its clinical pathology.	2	Emp

Course Name **Radiographic Positioning II Lab**

Course Code **RD 3342**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to perform basic and special projection done for upper and lower extremities.	2	Emp
<b>CO2</b>	Students will be able to perform all projection for shoulder joint related to its radiological pathology.	2	Emp
<b>CO3</b>	Students will be able to perform all projection for pelvis girdle related to its radiological pathology.	3	Emp
<b>CO4</b>	Students will be able to perform basic and special projection done for whole spine positioning.	2	Emp
<b>CO5</b>	Students will be able to perform routine and special projection done in case of pediatric radiography.	1	Emp

Course Name **United Nations Development Programme**

Course Code **HU3202**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will learn about the Structure, Mission, Vision and Goals of UNDP	2	S
<b>CO2</b>	Equip the students with the knowledge of sustainable livelihoods for inclusive economic growth.	2	S
<b>CO3</b>	Students will learn and explore about the Human Development index to promote well being at all ages.	2	S
<b>CO4</b>	To impart better education on SDGs goals focusing on Gender Equality and Provide Access to Justice to All and Build Effective.	3	N
<b>CO5</b>	Students will develop knowledge regarding environment sustainability.	3	N

Course Name **Conventional Radiographic Technique II**  
Course Code **RD3401**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to learn about Portable & Mobile equipments	2	Emp
<b>CO2</b>	Students will be able to Understand about the Fluoroscopy Equipment	3	Emp
<b>CO3</b>	Students will be able to Understand about General features of fluoroscopic / radiographic table	2	Emp
<b>CO4</b>	Students will be able to Learn about the Principles of tomography	1	Emp
<b>CO5</b>	Students will be able to learn about Equipment for Cranial and Dental radiography	2	Emp

Course Name **Computed Tomography**

Course Code **RD3402**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to learn about Principle of Computed Tomography	1	Emp
<b>CO2</b>	Students will be able to learn about Instrumentation of CT	2	Emp
<b>CO3</b>	Students will be able to learn about CT Image Reconstruction Processes	2	Emp
<b>CO4</b>	Students will be able to learn about CT Artefacts- Classification, Types, Causes, Remedies	1	Emp
<b>CO5</b>	Students will be able to learn about Diagnostic aspects of CT and post Processing Techniques	3	Emp

Course Name **Equipment of Radiotherapy**

Course Code **RD3403**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to learn about Introduction to Orthovoltage equipment	1	Emp
<b>CO2</b>	Students will be able to know about principles of Isocentric Tele-isotope machines	3	Emp
<b>CO3</b>	Students will be able to learn about Salient features of components of Linear Accelerator	2	Emp
<b>CO4</b>	Students will be able to learn about Radio-frequency generators like magnetron and klystron	3	Emp



<b>CO5</b>	Students will be able to learn about Basic principle of remote after-loading system/machines	2	Emp
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Course Name **Magnetic Resonance Imaging**

Course Code **RD3404**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about Basic Principle of Magnetic Resonance Imaging	1	Emp
<b>CO2</b>	Students will be able to learn about the MRI Hardware	2	Emp
<b>CO3</b>	Students will be able to learn about Pulse sequences used in MRI	3	Emp
<b>CO4</b>	Students will be able to learn about MRI Artifacts	2	Emp
<b>CO5</b>	Students will be able to learn about Flow Phenomena & MRI angiography	1	Emp

Course Name **Orientation in Clinical Sciences**

Course Code **RD3406**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about heart diseases	2	Emp
<b>CO2</b>	Students will be able to know about Intestinal obstruction, Crohn's disease, Ulcerative colitis	2	Emp
<b>CO3</b>	Students will be able to learn about urinary tract diseases	3	Emp

<b>CO4</b>	Students will be able to learn about Fracture types, Paget's Disease, Bone Tumor-Benign Malignant	2	Emp
<b>CO5</b>	Students will be able to learn about Cholelithiasis, Peritonitis, Appendicitis	3	Emp

Course Name **Computed Tomography Lab**  
Course Code **RD 3441**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to learn about patient preparation and positioning done for CT non-contrast procedures.	2	Emp
<b>CO2</b>	Students will be able to learn about patient preparation and positioning done for CT contrast procedures.	1	Emp
<b>CO3</b>	Students will be able to learn about different radiation protection methods in computed tomography.	3	Emp
<b>CO4</b>	Students will be able to know about Various post processing techniques with evaluation of image quality and clinical findings.	2	Emp
<b>CO5</b>	Students will be able to know about pre and post procedural care of patient including contrast media reaction management in CT.	3	Emp

Course Name **Magnetic Resonance Imaging Lab**  
Course Code **RD 3442**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
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<b>CO1</b>	Students will be able to learn about patient preparation and positioning done for MRI non- contrast procedures.	1	Emp
<b>CO2</b>	Students will be able to learn about patient preparation and positioning done for MRI contrast procedures	1	Emp
<b>CO3</b>	Students will be able to perform Planning of different scanning planes by using different parameters and tradeoffs in MRI.	2	Emp
<b>CO4</b>	Students will be able to learn various post processing techniques and evaluation of image quality with its clinical findings.	2	Emp
<b>CO5</b>	Students will be able to know about pre and post procedural monitoring of patient including contrast media reaction management in MRI.	3	Emp

Course Name **Nuclear Medicine Technology**  
Course Code **RD3501**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about Introduction to NMT and Radioactive transformation	2	Emp
<b>CO2</b>	Students will be able to learn about the production of Radionuclides	1	Emp
<b>CO3</b>	Students will be able to know about Radio pharmacy & Handling & Transport of Radionuclides	1	Emp
<b>CO4</b>	Students will be able to study about equipment of NMT	2	Emp
<b>CO5</b>	Students will be able to study about Treatment Planning of NMT procedures.	2	Emp

Course Name **Patient Care and Management**  
Course Code **RD3502**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to assess current physical status and obtaining vital signs	1	Emp
<b>CO2</b>	Students will be able to know about the responsibilities of the Imaging Technologist	1	Emp
<b>CO3</b>	Students will be able to learn about handling the emergencies in Radiology	3	Emp
<b>CO4</b>	Students will be able to learn about infection control, Isolation & Sterilization techniques	2	Emp
<b>CO5</b>	Students will be able to learn about Radiation Safety / Protection, Interacting with terminally ill patient.	2	Emp

#### **Radiation Protection and Quality**

Course Name **Assurance**

Course Code **RD3503**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to learn about Introduction to Radiation Protection, Units & Quantities	1	Emp
<b>CO2</b>	Students will be able to study about radiation monitoring & Radiobiology	1	Emp
<b>CO3</b>	Students will be able to know about Quality Control and Assessment in Radiology	2	Emp
<b>CO4</b>	Students will be able to learn about Care and maintenance of diagnostic equipment	3	Emp

<b>CO5</b>	Students will be able to understand the Role of Radiographer in Planning, QA & in Radiation Protection	2	Emp
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Course Name **Interventional Procedure and Technique**  
Course Code **RD3504**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about Introduction to Interventional Radiology, Contrast media & Emergency Drugs	1	Emp
<b>CO2</b>	Students will be able to know about Basics of Angiographic equipments	2	Emp
<b>CO3</b>	Students will be able to study the Digital Subtraction Angiography techniques	1	Emp
<b>CO4</b>	Students will be able to know about Sterile Techniques & Radiation protection	3	Emp
<b>CO5</b>	Students will be able to learn about Interventional Procedures	3	Emp

**Preventive Medicine, Health Care and Radiation Protection**

Course Name **Radiation Protection**  
Course Code **RD3505**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to know about Health, communicable and non-communicable diseases.	1	Emp
<b>CO2</b>	Students will be able to Study about National health policy and programs.	2	Emp

<b>CO3</b>	Students will be able to study about fertility and population control methods.	3	Emp
<b>CO4</b>	Students will be able to learn the objectives and goals of WHO, UNICEF, Indian Red Cross Society, UNFPA, FAO, ILO.	3	Emp
<b>CO5</b>	Students will be able to learn about radiation protection and personal monitoring devices.	2	Emp

Course Name **Nuclear Medicine Technology Lab**  
Course Code **RD 3541**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about patient preparation and positioning done for NMT non- contrast procedures.	3	Emp
<b>CO2</b>	Students will be able to learn about patient preparation and positioning done for NMT contrast procedures	3	Emp
<b>CO3</b>	Students will be able to perform Planning of different scanning planes by using different parameters and tradeoffs in NMT.	2	Emp
<b>CO4</b>	Students will be able to learn various post processing techniques and evaluation of image quality with its clinical findings.	3	Emp
<b>CO5</b>	Students will be able to know about pre and post procedural monitoring of patient in NMT procedures.	2	Emp

Course Name **Clinical Aspects in Radio Imaging**  
Course Code **RD3602**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to understand about Computed Tomography Scanning protocol, Indication, Patient preparation, image quality	2	Emp
<b>CO2</b>	Students will be able to understand about Magnetic Resonance imaging Scanning protocol, Indication, Patient preparation, image quality	1	Emp
<b>CO3</b>	Students will be able to understand about Scanning protocol, Indication, Patient preparation, image quality in Nuclear Medicine	1	Emp
<b>CO4</b>	Students will be able to study about Ultrasonography and Mammography	3	Emp
<b>CO5</b>	Students will be able to learn about Digital Radiography & Interventional Radiology	3	Emp

Course Name **Advances CT, MRI, USG**

Course Code **RD3603**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be able to understand about the advanced imaging techniques in CT	2	Emp
<b>CO2</b>	Students will be able to learn about MRI imaging methods	3	Emp
<b>CO3</b>	Students will be able to study about the techniques of sonography-selection	2	Emp

<b>CO4</b>	Students will be able to understand about CT anatomy and pathology of different organ systems.	1	Emp
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Course Name **Seminars**  
Course Code **RD3604**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO</b>	Students may be able to understand about specimen collection, culture media, isolation of pure culture.	2	Emp

Course Name **Medical Law and Ethics**  
Course Code **RD3605**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students will be Introduced to medical law and ethics.	3	Emp
<b>CO2</b>	Students will be able to study about Autonomy, informed consent, and rights of patients.	1	Emp
<b>CO3</b>	Students will be able to study about Medico legal aspects of medical records.	2	Emp
<b>CO4</b>	Students will be able to learn about Professional Indemnity insurance policies.	2	Emp
<b>CO5</b>	Students will be able to study about the basics of emergency care and life support skills.	3	Emp

Course Name **Clinical Aspects in Radio Imaging Lab**  
Course Code **RD 3641**



  
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Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to perform all scanning protocols done in computed tomography based on clinical pathology and exposure.	1	Emp
CO2	Students will be able to perform all scanning protocols done in magnetic resonance imaging based on clinical pathology and exposure.	2	Emp
CO3	Students will be able to perform all scanning protocols done in nuclear medicine instrumentation based on clinical pathology and exposure.	3	S
CO4	Students will be able to perform all scanning protocols done in ultrasonography and mammography based on clinical pathology and exposure.	2	Emp
CO5	Students will be able to perform all scanning protocols done in digital radiography and interventional procedures based on clinical pathology and exposure.	2	Emp

Course Name **Biostatistics & Research Methodology**  
Course Code **RD3616**

Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
CO1	Students will be able to learn about Biostatistics – introduction, Role of statistics in health science	1	S
CO2	Students will be able to learn about use of databases and other sources	3	S

<b>CO3</b>	Students will be able to Understand the research designs used in biostats	2	S
<b>CO4</b>	Students will be able to analyze qualitative and quantitative data types	3	S
<b>CO5</b>	Students will be able to understand the role of evidence-based practice within health and welfare.	3	S

Course Name **Health Psychology**  
Course Code **ND 3621**

<b>Unit-wise Course Outcome</b>	<b>Descriptions</b>	<b>BL Level</b>	<b>Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)</b>
<b>CO1</b>	Students will be able to learn about need of Health psychology and its various perspectives.	1	S
<b>CO2</b>	Students will be able to learn about stress management and different relaxation techniques.	3	S
<b>CO3</b>	Student will be able to learn about Psychological dimensions and management of chronic illness.	2	S
<b>CO4</b>	Students will be able to learn about creativeness in thinking and problem solving and also learn about decision making strategies.	3	S
<b>CO5</b>	Student will be able to learn about stages of memory, models & theory of information processing and important factors that affects forgetting.	3	S

Course Name **Health Care and Hospital Administration**  
Course Code **ND3622**



Unit-wise Course Outcome	Descriptions	BL Level	Employability (Emp)/ Skill(S)/ Entrepreneurship (Emt)/ None (Use , for more than One)
<b>CO1</b>	Students should be able to learn about hospital management.	1	S
<b>CO2</b>	Students should be able to learn about the concepts of Food & Nutrition.	3	S
<b>CO3</b>	Students should be able to learn about the concepts of modern hospitality management.	2	S
<b>CO4</b>	Students should be able to learn about housekeeping methods in hospitals	3	S
<b>CO5</b>	Students should be able to learn about healthcare and medical tourism.	3	S