

UP STATE PARAMEDICAL FACULTY



DIPLOMA IN C.T SCAN TECHNICIAN ---121 DURATION: 02 YEARS

SYLLABUS: FIRST YEAR

TOPICS

1. Anatomy 2. Radiological Anatomy 3. Physics of X-Ray , 4. Radiography, Radiographic Positioning , 5. Radiation Hazards, Radiation Protection , 6. Dark Room. 7. Contrast-Media

SECOND YEAR

TOPICS

1. Anatomy , 2. Radiological Anatomy , 3. Pathologies as seen on C.T , 4. C.T Physics
5. Non Ionic & Ionic Contrast , 6. Contrast Reaction and its Management. ,
7. C.T Positioning & Preparation , 8. C.T Procedures , 9. Radiation Hazards, Radiation Protection
10. PET C.T / Recent Ad van

FIRST YEAR -- PAPER

Paper	Topics/subject	Marks	Duration
Paper-I	Anatomy & Physiology , Radiological Anatomy (-CT slices—axial, coronal and sagittal sections of human body)	75 100	3 hours
	Internal assessment	25	

<p>Paper II</p>	<p>Physics: Introduction to Physics, Radiologic Physics, Atom, Neil's Bohr Atomic model, Atomic number, Mass number, Isotopes, Valency, Ionization, X-Ray Physics, Discovery of X-Ray, Roentgenology, Fluoroscopy, Nature of X-Ray, wave length, Frequency, Sources of X-Ray, X-Ray Tube, Necessary Conditions for the production of X-Ray, Efficiency of X-Ray Production properties of X-Ray, Quality and Quantity of X-Ray, X-Ray Circuit, X-Ray control panel, protection, CT PHYSICS/MDCT Radiation: Radiation Dose. Radiation Hazards Protection, Dark Room Radiography: Positioning, Scaphoid PA & Olique, Elbow & shoulder joint, Foot AP & oblique, Knee joint AP, Pelvis AP, Chest AP, PA & Lat, Sub Mento vertical PNS, skull and townes. Abdomen Erect. BARIUM STUDIES/IVP/SINOGRAM Filming: Contrast-Media, Contrast, Density, Detail, Types of film, Cassette, Intensifying Screen, Safe Light, Developer, Fixer, Manual Processing, Causes of film fog, Factors of X-Ray</p>	<p>75</p>	<p>100</p>	<p>3hrs</p>
	<p>Internal Assessment</p>	<p>25</p>		
<p>PRACTICAL</p>	<p>Patient prerequisites, Patient positioning, Patient consent, CT filming, Dark Room Indication & contraindication of CT, Contrast REACTION management with IV fluid; O2 STEROIDS etc. PERFORMING HEAD C.T. SCAN</p>	<p>100</p>		<p>3hrs</p>

SECOND YEAR - PAPER

Paper	Topics/subject	Marks		Duration
Paper I	<p>Anatomy & Physiology (Nervous System (C.N.S., P.N.S., A.N.S.) Brain, Cerebrum, Basal Ganglia, Thalamus. Hypothalamus, Ventricles, CerebroSpinal Fluid and pathway, Brain Stem, Cerebellum, Spinal Cord. GIT Digestive System, Alimentary Tract,, Pharynx, Mesentery Oesophagus. Stomach, Small Intestine, Large Intestine, Salivary Glands FACE/ORBIT/PNS COURSE OF MAJOR VESSELS AND LYMPHATICS MAJOR NODES Neck and Larynx, Hepatobiliary Bones and muscles of limbs Circulatory System, Heart, Pulmonary Circulation, Systemic Circulation, Aorta. Respiratory System, Nose, Pharynx, Trachea, Bronchus, Lungs. Urinary System, Kidneys, Ureters, Urinary Bladder, Urethra.Orbit, Occipital Bone, Parietal Bone, Temporal Bone, Frontal Bone Frontal Bone, Sphenoid Bone, Ethmoid Bone, Vertebral Column, Slice Anatomy-Brain, Neck Thorax, Abdomen, Pituitary, Orbit, P.N.S., Limbs, Vertebra in C.T. Scan. Axial, Coronal & Saggital. Anatomy of Body---Radiological Anatomy Non Ionic & Ionic Contrast NEGATIVE & POSITIVE CONTRAST Contrast Reaction and its Management. ROUTES OF CONTRAST ,</p>	75	100	3hours

	Radiation Hazards and protection			
	Internal Assessment.	25		
Paper II	Patient Preparation & Positioning of C.T Brain, C.T. Neck, C.T.P.N.S., C.T. Thorax, C.T. Abdomen, C.T. Scan of Spine, C.T. limbs, C.T. Orbit, HRCT Pathologies -Cranio Cerebral & body Trauma , Epidural/Subdural, Haematoma, Subarachnoid Haemorrhage, Intracerebral Haematoma, Hydrocephalus, Stroke , Cerebral Infarction. Brain & body Tumours . Pneumonia,	75	100	3hrs

	<p>Pneumothorax, Pleural Effusion, Tuberculosis,. Hepatocellular carcinoma, Renal Cyst, Renal cell carcinoma, Polycystic Disease. Abdominal & Pelvic masses (inflammatory and malignant) Angio of Brain, Abdomen, NCC /TUBERCULOMA /RING LESIONS OF BRAIN VASCULAR LESIONS C.T. Myelogram, CT Guided FNAC & Other Special C.T. Procedures. C.T Enteroclysis, CT IVP PET C.T / Recent Advances/perfusion CT/ MDCT</p>			
	<p>Internal Assessment. 25</p>		100	
PRACTICAL	PRACTICAL		100	

** * * * * **