

पाटन स्वास्थ्य विज्ञान प्रतिष्ठान, सेवा आयोग  
प्राज्ञिक सेवा, रेडियोलोजी समूह, सह-प्राध्यापक पद, दशौं (१०) तहको  
खुला र आन्तरिक प्रतियोगितात्मक परीक्षाको पाठ्यक्रम

**Paper II: Technical Subject  
Section (A) - 45 Marks**

**1. Physics in radiology**

- 1.1. Production of x-rays.
- 1.2. Interaction of x-rays with metals.
- 1.3. X-ray tube.
- 1.4. Radiation protection.
- 1.5. Basic physics and advances in fluoroscopy/ imaging intensifier.
- 1.6. Basic physics and advances in CR/DR system.
- 1.7. Basic physics and advances in CT
- 1.8. Basic physics and advances in MRI
- 1.9. Basic physics and advances in USG
- 1.10. Introduction to nuclear medicine.

**2. Sectional and Imaging anatomy.**

- 2.1. Cross-sectional & imaging anatomy of brain
- 2.2. Cross-sectional and imaging anatomy of chest
- 2.3. Cross-sectional and imaging anatomy of abdomen & pelvis
- 2.4. Anatomy of orbits and its bones
- 2.5. Vascular anatomy of brain/head.
- 2.6. Vascular anatomy of abdominal aorta and its branches.
- 2.7. Vascular anatomy of upper and lower limbs.
- 2.8. Relevant Embryology

**3. Nervous system**

- 3.1. Craniocerebral Trauma
- 3.2. Imaging of non-traumatic SAH
- 3.3. Imaging of non-traumatic ICH
- 3.4. Imaging of stroke
- 3.5. Cerebral ischemia
- 3.6. Brain tumors and tumor like processes
- 3.7. Extra-axial Tumors
- 3.8. Imaging of sellar tumours
- 3.9. Non-neoplastic and neoplastic spinal cord pathologies
- 3.10. CNS congenital anomalies

**4. Head & Neck**

- 4.1. Radiological imaging of diseases and conditions related to Ear, Nose, Throat, paranasal sinus
- 4.2. Radiological imaging of diseases of thyroid, salivary gland and other soft tissue neck.

**5. CVS & Interventional**

- 5.1. Radiological imaging of aortic and peripheral arterial diseases
- 5.2. Radiologic approach to pulmonary thromboembolism
- 5.3. Heart and pericardium
- 5.4. Congenital and acquired heart disease
- 5.5. Image guided radiological procedures and contrast media

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**6. Musculoskeletal System**

- 6.1. Skeletal trauma
- 6.2. Radiological imaging of bone tumors
- 6.3. Radiological imaging of large and small joints
- 6.4. Haemopoietic bone disorder
- 6.5. Osteomyelitis and septic arthritis
- 6.6. Degenerative bony abnormalities
- 6.7. Metabolic bone disorder

**Section (B) - 55 Marks**

**7. Thoracic / respiratory system**

- 7.1. Radiological imaging of Chest
- 7.2. Chest trauma
- 7.3. Radiological imaging of chest malignancy/ILD/Infective/Inflammatory pathology

**8. Gastrointestinal & hepatobiliary system**

- 8.1. Imaging of non-neoplastic / neoplastic esophageal pathology
- 8.2. Imaging of gastric pathology/ neoplasm
- 8.3. Liver neoplasms
- 8.4. Inflammatory bowel disease/ Neoplastic lesion of bowel
- 8.5. Imaging and interventions in GI bleed
- 8.6. Imaging of pancreatic neoplasm/ Inflammatory pathology

**9. Genito-urinary system**

- 9.1. Renovascular disease/ Neoplastic lesion
- 9.2. Genitourinary trauma
- 9.3. Genito-urinary tumor
- 9.4. Urinary bladder & Prostate imaging/ its pathology

**10. Breast and diagnostic ultrasound**

- 10.1. Breast imaging including USG, Mammography, MRI
- 10.2. Role of USG in IUGR
- 10.3. Diagnostic ultrasound in obstetrics / anomaly scan

**11. Paediatric imaging**

- 11.1. Imaging of the kidneys and urinary tract in children
- 11.2. Imaging of congenital CNS malformations
- 11.3. Respiratory Distress

**12. Recent advances in radiology and imaging**

- 12.1. Teleradiology, Radiology Information System & PACS
- 12.2. Newer advances in CR/ DR system, Fluoroscopy and Mammogram
- 12.3. Newer advances in CT and MRI

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