

पाटन स्वास्थ्य बिज्ञान प्रतिष्ठान, सेवा आयोग
प्राज्ञिक सेवा, रेडियोलोजी समूह, प्राध्यापक पद (११ औं) तहको
खुल्ला र अन्तरिक प्रतियोगिता प्रतियोगितात्मक परीक्षाको पाठ्यक्रम
Paper II: Technical Subject
Section (A) - 45 Marks

- I. Physics in radiology**
1. Production of x-rays.
 2. Interaction of x-rays with metals.
 3. X-ray tube.
 4. Radiation protection.
 5. Basic physics and advances in fluoroscopy/ imaging intensifier.
 6. Basic physics and advances in CR/DR system.
 7. Basic physics and advances in CT
 8. Basic physics and advances in MRI
 9. Basic physics and advances in USG
 10. Introduction to nuclear medicine.
- II. Sectional and Imaging anatomy.**
1. Cross-sectional & imaging anatomy of brain
 2. Cross-sectional and imaging anatomy of chest
 3. Cross-sectional and imaging anatomy of abdomen & pelvis
 4. Anatomy of orbits and its bones
 5. Vascular anatomy of brain/head.
 6. Vascular anatomy of abdominal aorta and its branches.
 7. Vascular anatomy of upper and lower limbs.
 8. Relevant Embryology
- III. Nervous system**
1. Craniocerebral Trauma
 2. Imaging of non-traumatic SAH
 3. Imaging of non-traumatic ICH
 4. Imaging of stroke
 5. Cerebral ischemia
 6. Brain tumors and tumor like processes
 7. Extra-axial Tumors
 8. Imaging of sellar tumours
 9. Non-neoplastic and neoplastic spinal cord pathologies
 10. CNS congenital anomalies
- IV. Head & Neck**
1. Radiological imaging of diseases and conditions related to Ear, Nose, Throat, paranasal sinus
 2. Radiological imaging of diseases of thyroid, salivary gland and other softtissue neck.
- V. CVS & Interventional**
1. Radiological imaging of aortic and peripheral arterial diseases
 2. Radiologic approach to pulmonary thromboembolism
 3. Heart and pericardium
 4. Congenital and acquired heart disease
 5. Image guided radiological procedures and contrast media
- VI. Musculoskeletal System**

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1. Skeletal trauma
2. Radiological imaging of bone tumors
3. Radiological imaging of large and small joints
4. Haemopoietic bone disorder
5. Osteomyelitis and septic arthritis
6. Degenerative bony abnormalities
7. Metabolic bone disorder

Section (B) - 55 Marks

VII. Thoracic / respiratory system

1. Radiological imaging of Chest
2. Chest trauma
3. Radiological imaging of chest malignancy
4. ILD/Infective/Inflammatory pathology

VIII. Gastrointestinal & hepatobiliary system

1. Imaging of non-neoplastic / neoplastic esophageal pathology
2. Imaging of gastric pathology/ neoplasm
3. Liver neoplasms
4. Inflammatory bowel disease/ Neoplastic lesion of bowel
5. Imaging and interventions in GI bleed
6. Imaging of pancreatic neoplasm/ Inflammatory pathology

IX. Genito-urinary system

1. Renovascular disease/ Neoplastic lesion
2. Genitourinary trauma
3. Genito-urinary tumor
4. Urinary bladder & Prostate imaging/ its pathology
5. Role of MRI in Gynecology

X. Breast and diagnostic ultrasound

1. Breast imaging including USG, Mammography, MRI and Breast cancer screening
2. Role of USG in IUGR
3. Diagnostic ultrasound in obstetrics / anomaly scan
4. Thyroid sonography
5. Cranial sonography
6. Elastography

XI. Paediatric imaging

1. Imaging of the kidneys and urinary tract in children
2. Imaging of congenital CNS malformations
3. Respiratory Distress
4. Developmental GI and Hepatobiliary anomalies
5. Childhood fractures

XII. Recent advances in radiology and imaging

1. Teleradiology, Radiology Information System & PACS
2. Newer advances in CR/ DR system, Fluoroscopy and Mammogram
3. Newer advances in CT and MRI

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4. Advances in Ultrasound
5. Pet Scan
6. Fusion Imaging, Molecular imaging
7. Artificial intelligence
8. CT dose reduction
9. Image quality.

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