



होमी भाभा राष्ट्रीय संस्थान
Homi Bhabha National Institute

(Tata Memorial Centre)

Dr. Ernest Borges Marg, Parel Mumbai – 400 012

Theory Examination – MD Radio-Diagnosis

May – June 2014

Paper I

1. Discuss the basic physics and instrumentation of a mammographic unit. What are the different mammographic projections? (25)
2. Discuss development of midgut. Discuss the role of various radiological modalities in the evaluation of midgut malrotation and volvulus. (25)
3. Answer any five questions out of six (5x10=50)
 - i. Ebstein's anomaly
 - ii. Flat panel digital radiography
 - iii. Factors affecting SNR in MRI
 - iv. Nephrogenic systemic fibrosis
 - v. Describe anatomical variations in circle of Willis with the help of a diagram. Enumerate the sites of intracranial aneurysm.
 - vi. Line focus principle and anode heel effect



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Paper II

1. Discuss in detail the etiology and imaging features of hyperparathyroidism (25)
2. Discuss the role of MDCT in evaluation of an elderly patient presenting to the casualty with acute chest pain. (25)
3. Answer any five questions out of six (5x10=50)
 - i. Multiple sclerosis
 - ii. Mucocele of paranasal sinus
 - iii. Gestational trophoblastic disease
 - iv. Mention causes of dysphagia and their radiological features
 - v. Imaging features of pheochromocytoma
 - vi. Role of ultrasound in renal transplant



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Paper III

1. Discuss in detail the radiological evaluation of a neonate presenting with seizures. (25)
2. Briefly discuss the role of radiologist in a patient presenting with hematuria. (25)
3. Answer any five (5x10=50)
 - i. Solitary pulmonary nodule
 - ii. Neurofibromatosis type II
 - iii. Sonographic markers of Down syndrome
 - iv. Angiomyolipoma
 - v. Sigmoid volvulus
 - vi. Pulmonary sequestration



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Paper IV

1. MR imaging of the prostate and recent advances. (25)
2. Describe the causes and imaging features of a patient with proptosis (25)
3. Answer any five (5x10=50)
 - i. 3D/4D ultrasound
 - ii. Clinical applications of diffusion tensor imaging
 - iii. Techniques and applications of CT colonography
 - iv. Constructive interference in steady state (CISS) sequence
 - v. Percutaneous vertebroplasty
 - vi. Ultrasound elastography
 - vii. Bronchial artery embolisation