

**OCTOBER 2019**

**PAPER I – MEDICAL RADIATION PHYSICS AS APPLIED TO  
RADIO DIAGNOSIS**

**I. Elaborate on: (2 x 15 = 30)**

1. Enumerate the differences between Film-Screen Radiography, Computed Radiography and Digital Radiography.
2. Briefly describe a superconducting MRI magnet with a neat diagram.  
List various coils involved in imaging with their specific uses.

**II. Write notes on: (10 x 7 = 70)**

1. Dual energy CT.
2. Time, Distance, Shielding.
3. Image resolution in radiography.
4. Ultrasound artifacts – How to rectify?
5. Filters.
6. Cone beam CT.
7. Factors that affect Doppler signal and spectrum.
8. Grid: types and uses.
9. FAT suppression technique in MRI.
10. Barium as a contrast agent.

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**OCTOBER 2019**

**M.D. DEGREE EXAMINATION**

**PAPER II – RADIO DIAGNOSIS INCLUDING NUCLEAR MEDICINE**

**I. Elaborate on: (2 x 15 = 30)**

1. Imaging of dementia. Discuss in detail about role of nuclear medicine in Diagnosis.
2. What are the different types of Osteosarcoma? Describe the typical imaging features of various types along with relevant differential diagnosis.

**II. Write notes on: (10 x 7 = 70) 1.**

Pulmonary TB vs Sarcoidosis.

2. PSMA PET CT.
3. Doppler findings in Renovascular hypertension.
4. MRI features of endometriosis.
5. Imaging features in Legg-Calvé-Perthes disease.
6. Anterior mediastinal mass; differentials with key imaging features.
7. Painful unilateral proptosis.
8. Indications for MRI Breast.
9. Acute osteomyelitis; differentials and key imaging features.
10. Lung collapse patterns.

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**OCTOBER 2019**  
**M.D. DEGREE EXAMINATION**

**PAPER III – RADIO DIAGNOSIS INCLUDING INSTRUMENTATION AND**  
**CONTRAST STUDIES**

***Q.P. Code: 202033***

**Time : Three Hours Maximum : 100 Marks**

**I. Elaborate on: (2 x 15 = 30)**

1. Discuss the differentials and imaging findings of hypervascular liver lesions.

Include a note on CT and MRI protocol.

2. Pediatric intracranial tumours; differentials with key imaging findings.

Add a note on MRI protocol in a child with medulloblastoma.

**II. Write notes on: (10 x 7 = 70) 1.**

Gadolinium deposition in brain.

2. Pituitary microadenoma.

3. Cystic renal lesions in a child.

4. MRI shoulder in labral injuries.

5. Leukodystrophies with Macrocephaly.

6. Imaging findings in male infertility.

7. Protocol, patient preparation for CT Coronary angiogram.

8. Contrast enhanced ultrasound; indications and technique.

9. Ring-enhancing lesions in an immunocompetent adult.

10. MRI evaluation of Ca Rectum.

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**OCTOBER 2019  
M.D. DEGREE EXAMINATION**

**BRANCH VIII – RADIO DIAGNOSIS  
PAPER IV – RADIO DIAGNOSIS INCLUDING INTERVENTIONAL  
PROCEDURES AND RECENT ADVANCES**

**I. Elaborate on: (2 x 15 = 30)**

1. List the differential diagnosis in an adult male presenting with hematemesis. Mention the indications, technique and complications of Transjugular Intrahepatic Portosystemic Shunt (TIPS).
2. Discuss the causes of neonatal encephalopathy and role of MRI.

**II. Write notes on: (10 x 7 = 70)**

1. Percutaneous nephrostomy; indications, technique.
2. Evaluation of thyroid nodules.
3. Nuchal fold thickness.
4. Cardiac MRI: indications, advantages over other modalities.
5. Radiofrequency ablation of non-liver lesions.
6. Role of intervention in post partum hemorrhage.
7. MRI flow voids in the spinal canal.
8. Focussed ultrasound therapy for Uterine fibroids.
9. Artificial intelligence in radiology.
10. Fast imaging techniques in MRI.

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