

THE TAMIL NADU DR.M.G.R. MEDICAL UNIVERSITY

[MD 0524]

MAY 2024

Sub. Code: 4083

**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. Trauma and emergency imaging with special note in Sub Arachnoid Hemorrhage.
2. Multiple nodules in Liver. Imaging with special note to hepatic transplant imaging.

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

1. Advanced USG techniques in breast and liver.
2. Arrhythmogenic Right Ventricular Dysplasia imaging in cardiac MRI.
3. MRI CSF Flow study.
4. Time Intensity Curve in MRI breast.
5. Juvenile epistaxis evaluation and intervention.
6. CT and MRI sequences in Cisternogram.
7. Puncture, Aspiration, Injection and Respiration technique.
8. Xanthogranulomatous pyelonephritis.
9. PCN with Antegrade DJ stenting.
10. RFA in solid tumours of various organs.

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BRANCH VIII – RADIO DIAGNOSIS

PAPER I – BASIC SCIENCES RELATED TO RADIOLOGY

**(CONSISTS OF ANATOMY, PATHOLOGY, BASIC AND RADIATION PHYSICS,
IMAGING TECHNIQUES AND FILM PROCESSING)**

I. Essay: (2 x 15 = 30)

1. Described the physics of Ultrasound. Enumerate the advanced techniques and the physics behind them.
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. Image reconstruction Algorithms in CT.
2. What does Inverse square Law state and give its application.
3. MR spectroscopy principles.
4. Annihilation coincidence detection.
5. What are the types of Rectifiers? Describe its function.
6. Automatic Brightness Control.
7. Normal variants in CT Paranasal sinuses.
8. Deterministic and stochastic effects.
9. Radiological anatomy of Hilum of lung.
10. Anatomy of adrenal gland.

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BRANCH VIII – RADIO DIAGNOSIS

M.D. DEGREE EXAMINATION

**PAPER II – CHEST, CVS, CNS INCLUDING HEAD & NECK, EYE, ENT,
MUSCULO-SKELETAL, PAEDIATRIC RADIOLOGY AND MAMMOGRAPHY**

I. Essay: (2 x 15 = 30)

1. Describe the general characteristics of bone tumours. Discuss in detail the Radiology and imaging characteristics of bone tumours of osteoid origin.
2. MR spectroscopy in evaluation of paediatric cancers.

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

1. Imaging protocol of HRCT temporal bone. Discuss the causes of pulsatile Tinnitus with imaging features.
2. Role of imaging in acute CNS infection.
3. Discuss the radiological and imaging evaluation of unilateral proptosis in the paediatric age group.
4. USG in vitreous degeneration with differentials.
5. Leukocoria (white eye).
6. Stygia
7. Causes and imaging appearances in Sellar and suprasellar Tumours.
8. Doppler evaluation of vertebral arteries.
9. Total Anomalous Pulmonary Venous Connection (TAPVC).
10. Internal derangement of TMJ

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**M.D. DEGREE EXAMINATION
BRANCH VIII – RADIO DIAGNOSIS**

PAPER 3 Q.P. Code: 20408

Time : Three Hours

Maximum : 100 Marks

I. Essay: (2 x 15 = 30)

1. What are the causes of mesenteric ischemia? Discuss the role of imaging in the Diagnosis and management of patients with mesenteric ischemia.
2. Define contrast nephropathy. Elaborate on the mechanism of contrast nephropathy ***Q.P. Code: 204083***

II. Write notes on:

(10 x 7 = 70)

1. PC-PNDT Act.
2. MRI in female infertility.
3. Role of Isotope imaging in the assessment of GI bleed.
4. Sclerotherapy of lymph cyst in children.
5. Techniques for CT guided interventions in Retroperitoneal tumour diagnosis.
6. Trans jugular intrahepatic Porto systemic shunt procedure.
7. List mullerian anomalies and their imaging findings.
8. Classification of Twins and Ultrasound evaluation.
9. Role of imaging in differentiating adrenal adenoma from metastasis.
10. MR and MR pancreatography in annular pancreas.

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Sub. Code:

PAPER 3 , M.D. DEGREE EXAMINATION

I. Essay: (2 x 15 = 30)

1. Classify pancreatic neoplasms. Discuss imaging approach in cystic pancreatic lesions.
2. Enumerate the common locations of ectopic pregnancy in order of frequency. Discuss the imaging findings of ectopic pregnancy.

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

1. Imaging and intervention in Budd Chiari syndrome
2. Discuss the differential diagnosis of bilateral adrenal masses in a 60-year-old patient.
3. Role of Interventional Radiology in visceral vascular emergencies.
4. TIRADS.
5. Role of MRI in fetal imaging.
6. Hormone secreting Pituitary tumors MR evaluation.
7. Imaging manifestations in metabolic encephalopathy.
8. Triple phase CT in Liver tumor evaluation.
9. MR urethrography.
10. Mesoblastic nephroma.

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**Time : Three Hours
Marks**

Maximum : 100

I. Essay: (2 x 15 = 30)

1. Acute aortic syndrome with brief imaging on Aortic dissection and its complication.
2. PSMA PET-CT in the diagnostics and staging of prostate cancer.

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

1. AI in radiology.
2. Radioisotopes used in PET scan.
3. Role of PET in imaging of neuro endocrine tumour.
4. Phemister triad.
5. Radiofrequency ablation of liver tumours.
6. Imaging of osteiodosteomaand interventional management.
7. Inferior vena cava filter.
8. Neurolysis in pain management.
9. USG contrast agents.
10. Triple rule-out approach in cardiac computed tomography.

RADIO DIAGNOSIS

PAPER IV – RECENT ADVANCES, NUCLEAR MEDICINE; RADIOLOGY RELATED TO CLINICAL SPECIALTIES

Q.P. Code: 204084

Time : Three Hours

Maximum : 100 Marks

I. Essay: (2 x 15 = 30)

1. Compare PET CT with PET MRI and its clinical applications.
2. Describe in detail the various sequences used in cardiac MRI and Imaging features in Ischemic Cardiomyopathies.

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

1. Techniques and advantages of TRUS.
2. Role of Ultra Sound and CT in renal transplant.
3. Dual Energy CT.
4. Liver specific contrast agents.
5. Magnetic Encephalography.
6. Bone marrow reconversion.
7. Vessel wall Imaging.
8. Virtual colonoscopy.
9. Von Hippel Lindau syndrome.
10. Role of USG in different types of Hernias.
