

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

JULY 2023 Sub. Code: 2031 (MAY 2023 EXAM SESSION)

M.D. DEGREE EXAMINATION

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

Q.P. Code: 202031

Time : Three Hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe the various measures and planning necessary for installation of 1.5 Tesla MR Machine.
2. Describe in detail the principle of Ultrasound Elastography and their clinical applications.

II. Write notes on:

(10 x 7 = 70)

1. CT Angiography Techniques.
2. Factors affecting quality of X-Ray.
3. Rare earth screens.
4. Types of Grid and their uses.
5. Various inversion recovery sequences and clinical applications.
6. Digital Radiography.
7. Weight bearing views in X-Rays.
8. Post processing methods in CT.
9. Mobile Radiographic Equipment
10. Meniere's disease.

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**[MD 1223]
EXAM SESSION)**

DECEMBER 2023

Sub. Code: 2031 (OCTOBER 2023

M.D. DEGREE EXAMINATION

BRANCH VIII – RADIO DIAGNOSIS

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

Q.P. Code: 202031

Time : Three Hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Practical aspects of Radiation protection with special references to patient doses of dose assessment.
2. HRCT Techniques and protocols. Write about image quality, artifacts in HRCT and Protocols of HRCT Temporal bone.

II. Write notes on:

(10 x 7 = 70)

1. Atomic Energy Regulatory Board and eLORA Guidelines.
2. Mammogram techniques and Equipment.
3. Physics of CT PET.
4. Artifacts of Doppler imaging.
5. Diffusion weighted imaging.
6. Ultrasound Probe.
7. Personal dosimetric devices.
8. Interaction of X- Rays with matters.
9. Step up and step down transformer.
10. MRI Artifacts.

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[MD 0723] JULY 2023 Sub. Code: 2032 (MAY 2023 EXAM SESSION)

M.D. DEGREE EXAMINATION

BRANCH VIII – RADIO DIAGNOSIS

PAPER II – RADIO DIAGNOSIS INCLUDING NUCLEAR MEDICINE

Q.P. Code: 202032

Time : Three Hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. CT Enteroclysis with special application to inflammatory disorder of Small Bowel other than Crohns Disease.
2. Paediatric brain tumours with special reference to Posterior Fossa.

II. Write notes on:

(10 x 7 = 70)

1. Biliary leak and its management.
2. Imaging features of meningioma.
3. Ossification of Posterior Longitudinal ligament and its differential diagnosis.
4. Magnetisation Transfer Imaging in Tuberculosis and Neurocysticercosis of brain.
5. Growth scan in third trimester.
6. PI-RADS.
7. Thyroid scintigraphy.
8. Imaging of male infertility.
9. Renal scan.
10. Role of FDG.

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[MD 1223]

**DECEMBER 2023
(OCTOBER 2023 EXAM SESSION)**

Sub. Code: 2032

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

PAPER II – RADIO DIAGNOSIS INCLUDING NUCLEAR MEDICINE

Q.P. Code: 202032

Time : Three Hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Nuclear imaging in ischemic heart disease.
2. Describe in detail the role of Pre operative CT in Hepatic Transplantation and what the surgeon expects?

II. Write notes on:

(10 x 7 = 70)

1. Prostate Specific Membrane Antigen (PSMA) PET scan.
2. Radionuclide imaging for Parkinson disease.
3. Pitfalls in PET CT Imaging.
4. Superficial temporal artery Doppler.
5. Radiomics in gliomas.
6. Imaging of extra pulmonary disease manifestations of COVID-19.
7. HRCT Chest in mosaic attenuation.
8. MR Urography in children.
9. CT PNS reporting for Functional Endoscopic Sinus Surgery (FESS).
10. MRI in Sports related Groin pain.

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[MD 0723]

**JULY 2023
(MAY 2023 EXAM SESSION)**

Sub. Code: 2033

**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. Classify various types of MRI Contrast agents and discuss about them in detail.
2. Discuss in detail the role of CT and MRI in Pre and Post operative evaluation of cochlear implantation.

II. Write notes on:

(10 x 7 = 70)

1. Solitary lytic lesion of skull.
2. Cardiac MRI planning and views.
3. Orthopaedic hardware MRI imaging and safety measures.
4. Aortic endoleaks.
5. Whole body muscle MRI.
6. Pediatric USG in Child with vomiting.
7. HRCT in small airway disease.
8. Female perineal USG.
9. Sonohysterosalpingogram.
10. CT Angiogram for Coronary plaque evaluation.

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[MD 1223]

DECEMBER 2023

Sub. Code: 2033

(OCTOBER 2023 EXAM SESSION)

**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. Mention HRCT patterns in Interstitial Lung Disease with special reference to Occupational Lung Diseases.
2. Describe about imaging of spinal cord lesions and role in MR – DTI in Spinal Cord Tumors.

II. Write notes on:

(10 x 7 = 70)

1. Imaging features of Genito Urinary Tuberculosis.
2. a) Black Pleura sign b) Spine sign c) Luftsichel sign.
3. Spetzler- Martin Score.
4. Lunate and Perilunate dislocation.
5. Nuchal Translucency Scan.
6. Vanishing Twin.
7. Grading of Sialogram.
8. Enumerate various Cardiomyopathies and their imaging.
9. USG Contrast.
10. Angiodysplasia of colon.

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[MD 0723]

**JULY 2023
(MAY 2023 EXAM SESSION)**

Sub. Code: 2034

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

Q.P. Code: 202034

Time : Three Hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Imaging of various Arterio Venous communications in the parenchymal and meningeal coverings of the brain with special references to Dural AV Fistula and intervention in cerebral aneurysm.
2. Approach to adrenal tumours with Special note on CT PET imaging.

II. Write notes on:

(10 x 7 = 70)

1. PTBD in obstructive Jaundice.
2. Imaging of brown tumours.
3. Transjugular Intrahepatic Portosystemic Shunt.
4. AMBER Technique in Chest X-rays.
5. Septal bounce in Cardiac MRI.
6. Intra amniotic Transfusions.
7. High frequency USG of Chest.
8. Uterine artery Embolisation.
9. Tram track sign.
10. Imaging of Acute Lower Abdominal pain in female of reproductive age with special emphasis on Ectopic pregnancy.

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