

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

[MD 1121]

**NOVEMBER 2021
(OCTOBER 2021 SESSION)**

Sub. Code: 2031

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. Described the physics of Ultrasound. Enumerate the advanced techniques and the physics behind them.
2. Image optimization in radiology.

II. Write notes on:

(10 x 7 = 70)

1. Contrast during pregnancy and Lactation.
2. Artifacts related to MRI and how to rectify them.
3. Legislations related to Radiology department.
4. Post processing techniques in CT.
5. PACS.
6. Physical parameters of MRI contrast.
7. Physics of SPECT.
8. Screen film Cassette.
9. TLD.
10. Digital 3D Mamography.

DR. M.G.R.

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NOVEMBER 2021

Sub. Code: 2032

(OCTOBER 2021 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. Describe fetal echo views. Fetal cardiac abnormalities in each view with diagrams.
2. Imaging of inflammatory bowel disease with emphasis on barium studies.

II. Write notes on:

(10 x 7 = 70)

1. Role of nuclear medicine in myocardial illness evaluation.
2. Twin to twin transfusion syndrome.
3. Mullarian anomalies.
4. Temporal arteritis imaging.
5. Bone marrow MRI.
6. Sclerosing skeletal dysplasia.
7. MR sequences you would employ to delineate internal derangement of knee.
8. Radiographic CVJ lines.
9. Role of nuclear medicine in brain death.
10. Neonatal neurosonography.

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**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. Imaging protocol of HRCT temporal bone and MRI pre and post cochlear transplant imaging.
2. A 20 year old female with history of fever showed an anterior mediastinal and right hilar mass on chest radiograph. Enumerate the causes. Discuss the radiological finding which shall help you in formulating your differential diagnosis. Describe in brief features which are useful in differentiating Hodgkin's disease and non-Hodgkin's lymphoma.

II. Write notes on:

(10 x 7 = 70)

1. Defecogram.
2. Describe the radiological anatomy of diaphragm. Enumerate various types of diaphragmatic hernias. Discuss the imaging findings.
3. Imaging in Covid – 19.
4. Acute aortic syndrome.
5. Imaging of swollen lower limb.
6. Nephrocalcinosis.
7. Signs in ectopic pregnancy.
8. Imaging in Pulmonary embolism.
9. Renal hypertension.
10. Linear versus macro cyclic MR contrast agents.

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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. Molecular imaging.
2. Imaging of puj obstruction and role of imaging in management.

II. Write notes on:

(10 x 7 = 70)

1. Machine learning.
2. 3D printing.
3. Inflammatory and auto immune disorder of spinal cord lesion.
4. CT and MR cisternergraphy.
5. CNS manifestations in COVID – 19.
6. Virtual Bronchoscopy.
7. Multifocal skull base lesions.
8. Imaging in cardiomyopathies.
9. LIRADS.
10. MR Hystero salphingo graphy.
