

Reg. No.

## MANIPAL ACADEMY OF HIGHER EDUCATION

### MD (RADIODIAGNOSIS) DEGREE EXAMINATION – JUNE 2020

SUBJECT: PAPER I: BASIC SCIENCES RELATED TO RADIOLOGY (IT CONSISTS OF ANATOMY, PATHOLOGY, BASIC AND RADIATION PHYSICS, IMAGING TECHNIQUES AND DARK ROOM PROCESSING)

Wednesday, June 03, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

✍ Long questions:

1. What is maximum permissible dose? Describe the methods of radiation protection to the patient and staff in diagnostic radiology.

(15 marks)

2. Describe in detail the structure and principle of intensifying screen. Discuss the newer phosphor technology.

(15 marks)

3. Short questions:

3A. Air gap technique

3B. Thermionic emission

3C. Transformers

3D. Sialography

3E. MR angiography

3F. <sup>99m</sup>Tc labeled radionuclide scans

3G. X-ray beam restrictors

3H. Inversion Recovery sequence

3I. PACS

3J. Describe AERB guidelines on X-ray room installation

(7 marks × 10 = 70 marks)



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**MD (RADIODIAGNOSIS) DEGREE EXAMINATION – JUNE 2020**  
**SUBJECT: PAPER II: CVS, RESP, GIT (INCLUDING HEPATO BILIARY),**  
**ENDOCRINE, CHEST, MAMMOGRAPHY**

Thursday, June 04, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the question.**

✍ **Long questions:**

1. Describe the role of MDCT in staging of carcinoma of lung. (15 marks)
  
2. Enumerate the causes of upper GI tract bleeding. How will you approach to investigate and manage a case of hematemesis? (15 marks)

3. **Short questions:**

- 3A. Role of fetal echocardiography in early detection of heart disease
- 3B. Imaging of vascular rings and slings
- 3C. Barium preparations for GIT studies
- 3D. Pulmonary sequestration
- 3E. Imaging in diverticular disease
- 3F. BI-RADS
- 3G. Hepatic masses of childhood
- 3H. Ultrasound in peripheral vascular disease
- 3I. Cystic adenomatoid malformations
- 3J. Splenic masses

(7 marks × 10 = 70 marks)



**MANIPAL ACADEMY OF HIGHER EDUCATION****MD (RADIODIAGNOSIS) DEGREE EXAMINATION – JUNE 2020**

**SUBJECT: PAPER III: GENITOURINARY, RETROPERITONEUM, CNS INCLUDING HEAD AND NECK, MUSCULOSKELETAL SYSTEM, OBST. & GYNAE, ENT AND EYE AND INTERVENTIONAL RADIOLOGY**

Friday, June 05, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Questions:**

1. Describe the imaging anatomy of craniovertebral junction. Describe the role of imaging in craniovertebral junction pathologies.

(15 marks)

2. Discuss the role of MRI in obstetrics, especially in areas where it overcomes the limitations of ultrasonography and scores over it.

(15 marks)

3. **Short questions:**

3A. Adrenal incidentaloma

3B. MR imaging of the spinal bone marrow

3C. Sonographic markers of Down syndrome

3D. MR in Carcinoma cervix

3E. Radiofrequency ablation of liver lesions

3F. Intraocular tumors

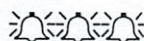
3G. Imaging in lower urinary tract obstruction

3H. Acro-osteolysis

3I. MRI in Temporomandibular joint

3J. Imaging in Otitis media

(7 marks×10 = 70 marks)



**MANIPAL ACADEMY OF HIGHER EDUCATION****MD (RADIODIAGNOSIS) DEGREE EXAMINATION – JUNE 2020****SUBJECT: PAPER IV: RECENT ADVANCES AND NUCLEAR MEDICINE RADIOLOGY  
RELATED TO CLINICAL SPECIALITIES**

Saturday, June 06, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long questions:**

1. Describe the instrumentation and principles of Radiofrequency ablation. Discuss the indications, patient selection, procedure and complications of its various implications.

(15 marks)

2. Functional MR in neuroimaging.

(15 marks)

3. **Short questions:**

3A. USG in Rheumatoid arthritis

3B. Carotid stenting

3C. PET in evaluation of lymphoma

3D. Ultrasound elastography

3E. PharmacologicMRI in endometrial pathologies

3F. Recent advances in CT detector technology

3G. MR coronary angiography

3H. Laser treatment of varicose veins in lower limb

3I. TRUS guided interventions

3J. Intraluminal MR contrast Agents

(7 marks × 10 = 70 marks)

