

**MANIPAL UNIVERSITY****MD (RADIODIAGNOSIS) DEGREE EXAMINATION – OCTOBER 2017**

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

Tuesday, October 03, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Questions:**

1. Discuss the principles and applications of Multislice volumetric spiral CT. (15 marks)
2. What are the properties of X-rays? Discuss the biological effects of radiation. (15 marks)

3. **Short Questions:**

- 3A. Describe the cross sectional details of the conventional X-ray film and that of a one side coated film.
- 3B. Piezo electric effect
- 3C. Fetal circulation
- 3D. Macroradiography
- 3E. Cross sectional anatomy of suprarenal glands. Enumerate hormones secreted by zones of suprarenal glands.
- 3F. Hazards and safe practice in MRI
- 3G. High frequency generators
- 3H. Time gain compensation (TGC) and dynamic range in ultrasound.
- 3I. Dacryocystography
- 3J. CT artifacts

(7 marks × 10 = 70 marks)



**MANIPAL UNIVERSITY****MD (RADIODIAGNOSIS) DEGREE EXAMINATION – OCTOBER 2017****SUBJECT: PAPER II: CVS, RESP, GIT (INCLUDING HEPATOBILIARY), ENDOCRINE,  
CHEST, MAMMOGRAPHY**

Wednesday, October 04, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

**✍ Answer ALL the question.****✍ Long Questions:**

1. Discuss various cyanotic congenital heart diseases.

(15 marks)

2. Breast calcifications: Mammographic evaluation.

(15 marks)

**3. Short questions:**

3A. Alveolar Microlithiasis

3B. Sub pulmonic effusion

3C. Pulmonary hamartoma

3D. Neuro enteric cyst

3E. Duodenal tumours

3F. Biliary atresia

3G. Popliteal artery entrapment syndrome

3H. MRI in pericardial pathology

3I. Heterotaxy syndromes

3J. BI-RADS

(7 marks × 10 = 70 marks)



**MANIPAL UNIVERSITY****MD (RADIODIAGNOSIS) DEGREE EXAMINATION – OCTOBER 2017**

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

Thursday, October 05, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Questions:**

1. Discuss the role of imaging in thyroid gland disorders. (15 marks)
2. Discuss the radiographic and sonographic findings in developmental dysplasia of hip. (15 marks)

3. **Short questions:**

- 3A. Adamantinoma
- 3B. Toxoplasmosis
- 3C. Medullary sponge kidney
- 3D. Slipped capital femoral epiphysis
- 3E. Leukocoria
- 3F. Neuroblastoma
- 3G. MRI in cruciate ligament tear
- 3H. Lumbar spinal stenosis
- 3I. Gestational trophoblastic disease
- 3J. MRI technique and normal anatomy of the uterus

(7 marks × 10 = 70 marks)



**MANIPAL UNIVERSITY****MD (RADIODIAGNOSIS) DEGREE EXAMINATION – OCTOBER 2017****SUBJECT: PAPER IV: RECENT ADVANCES AND NUCLEAR MEDICINE RADIOLOGY  
RELATED TO CLINICAL SPECIALITIES**

Friday, October 06, 2017

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long Questions:**

1. Discuss the role of MRI in breast diseases. (15 marks)
2. Describe segmental anatomy of the liver. Discuss imaging in liver transplantation. (15 marks)

3. **Short questions:**

- 3A. MR Imaging of placenta
- 3B. MRI in pelvic floor imaging
- 3C. Extra CNS utility of diffusion weighted imaging
- 3D. MR Tractography
- 3E. Cartilage imaging
- 3F. Ultrasound contrast media
- 3G. Post processing techniques in HRCT lung
- 3H. Gradient echo imaging
- 3I. Chemical shift imaging
- 3J. Denta CT and its clinical applications

(7 marks × 10 = 70 marks)

