

MANIPAL UNIVERSITY**MD (RADIODIAGNOSIS) DEGREE EXAMINATION – APRIL 2015**

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

Wednesday, April 01, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

✍ Long questions:

1. Discuss the principles, construction and functionalities of individual components of an image intensifier. Briefly describe the fluoroscopic imaging unit assembly.

(15 marks)

2. Discuss the principles of doppler sonography and instrumentation. Discuss various doppler controls and operating modes used in clinical Doppler sonography.

(15 marks)

3. Short Questions:

3A. Rectification

3B. Co2 Angiography

3C. Paramagnetic contrast media

3D. Superior orbital fissure

3E. Sialography

3F. CT artifacts

3G. New MR pulse sequences

3H. Scattered Radiation

3I. Methods of evaluation of grid performance

3J. Bone densitometry

(7 marks × 10 = 70 marks)



MANIPAL UNIVERSITY**MD (RADIODIAGNOSIS) DEGREE EXAMINATION – APRIL 2015****SUBJECT: PAPER II: CVS. RESP. GIT (INCLUDING HEPATO BILIARY),
ENDOCRINE, CHEST, MAMMOGRAPHY**

Thursday, April 02, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the question.**

✍ **Long questions:**

1. Discuss the role of imaging in polyposis syndromes of GIT. (15 marks)

2. Discuss the principles, techniques, advantages, limitations of CTA and MRA. (15 marks)

3. **Short questions:**

3A. Anomalies of aortic arch and its major branches

3B. Mention types of endoleak in post aortic aneurysm repair

3C. Partial anomalous pulmonary venous drainage

3D. Enumerate the causes of honeycombing. Describe HRCT findings of Usual interstitial pneumonia.

3E. Unilateral opaque hemithorax

3F. Fungus ball and its differential diagnosis

3G. Inflammatory fatty masses of the abdomen

3H. Choledochal cyst

3I. Ultrasonography in jaundice

3J. Sonomammography

(7 marks × 10 = 70 marks)



MANIPAL UNIVERSITY

MD (RADIODIAGNOSIS) DEGREE EXAMINATION – APRIL 2015

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

Saturday, April 04, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

✍ Long questions:

1. Classify pediatric brain tumors. Describe imaging features of pediatric glial tumors in detail. (15 marks)
2. Discuss the differential diagnosis of expanding lesion at the end of a long bone. (15 marks)

3. Short questions:

- 3A. Mucocele of para-nasal sinus
- 3B. Achondroplasia
- 3C. Imaging of intrauterine foetal death
- 3D. MRI findings in intracerebral hemorrhage
- 3E. Giant Cell Tumor
- 3F. Fibromuscular dysplasia of renal artery
- 3G. Diastematomyelia
- 3H. Role of CT in adrenal tumours
- 3I. Vein of Galen malformation
- 3J. Pelviureteric junction obstruction

(7 marks×10 = 70 marks)



MANIPAL UNIVERSITY

MD (RADIODIAGNOSIS) DEGREE EXAMINATION – APRIL 2015

SUBJECT: PAPER IV: RECENT ADVANCES AND NUCLEAR MEDICINE RADIOLOGY
RELATED TO CLINICAL SPECIALITIES

Monday, April 06, 2015

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ Answer ALL the questions.

✍ Long questions:

1. MR imaging of the prostate and recent advances. (15 marks)
2. High intensity focused ultrasound (HIFU) – Principle, Instrumentation and its applications. (15 marks)

3. Short questions:

- 3A. Imaging of the brachial plexus
 - 3B. Intrauterine fetal intervention
 - 3C. Dual source CT
 - 3D. MR Pelvimetry
 - 3E. Pharmacological agents used in cardiac CT & MRI
 - 3F. Describe the principles of parallel imaging technology and its clinical applications
 - 3G. Intraluminal MR contrast Agents
 - 3H. Vascular and biliary variants in the liver – implication for liver surgery
 - 3I. Steady state MR imaging sequences
 - 3J. Whole body diffusion weighted imaging
- (7 marks×10 = 70 marks)

