

**MANIPAL UNIVERSITY****PG DIPLOMA IN RADIO-DIAGNOSIS (D.M.R.D.) EXAMINATION – APRIL 2016 .****SUBJECT: PAPER I: BASIC SCIENCES RELATED TO RADIOLOGY (ANATOMY, PATHOLOGY, BASIC AND RADIATION PHYSICS, TECHNIQUE AND DARK ROOM PROCESSING AND APPARATUS CONSTRUCTION)**

Monday, April 18, 2016

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Long questions:**

1. Classify intravenous contrast media. What are the advantages of newer generation of contrast media? Discuss their adverse reactions.

(15 marks)

2. Discuss in detail digital subtraction angiography.

(15 marks)

3. **Short questions:**

3A. Time gain compensation (TGC) and dynamic range in ultrasound

3B. CT numbers and CT windowing

3C. PACS

3D. Process of X-ray generation

3E. Hazards and safe practice in MRI

3F. Blood supply of large intestine

3G. Maximum permissible dose

3H. New MR pulse sequences

3I. Iodixanol

3J. Myelography

(7 marks × 10 = 70 marks)



**MANIPAL UNIVERSITY****PG DIPLOMA IN RADIO-DIAGNOSIS (D.M.R.D.) EXAMINATION – APRIL 2016****SUBJECT: PAPER II: CNS INCLUDING HEAD AND NECK, MUSCULOSKELETAL,  
CHEST, MAMMOGRAPHY, C.V.S.**

Tuesday, April 19, 2016

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

 **Answer ALL questions.**

 **Long questions:**

1. Classify posterior fossa tumors occurring in children and in adults. Discuss imaging features of medulloblastoma in detail.

(15 marks)

2. What are the different types of periosteal reactions? Discuss the imaging features of osteomyelitis.

(15 marks)

3. **Short questions:**

3A. Craniosynostosis

3B. Raised intracranial tension

3C. Corpus callosum agenesis

3D. Mammographic signs of malignancy

3E. Acro-osteolysis

3F. Describe plain radiographic and CT findings of rt. upper lobe pulmonary collapse

3G. Fluorosis

3H. Pyknodysostosis

3I. Cardiogenic Vs Non-Cardiogenic pulmonary edema

3J. Coronary artery anomalies

(7 marks × 10 = 70 marks)



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## MANIPAL UNIVERSITY

PG DIPLOMA IN RADIO-DIAGNOSIS (D.M.R.D.) EXAMINATION – APRIL 2016

SUBJECT: PAPER III: ABDOMINAL IMAGING INCLUDING GI, GU, HEPATOBILIARY,  
INTERVENTIONAL RADIOLOGY, OBST AND GYNÆ

Wednesday, April 20, 2016

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL questions.**

✍ **Long questions:**

1. Describe the etiology and pathogenesis of renovascular hypertension. Discuss in brief the role of various imaging modalities in evaluation of the condition.

(15 marks)

2. Discuss various causes and imaging features in strictures of lower end of esophagus.

(15 marks)

3. **Short questions:**

3A. Adenomyosis

3B. Sonography in bleeding in first trimester

3C. Budd chiari syndrome

3D. Discuss various images guided Musculoskeletal interventions

3E. Polyhydraminos

3F. Ovarian follicular monitoring

3G. Describe imaging of low intestinal obstruction in a neonate

3H. Evaluation of fetal brain

3I. Anorectal malformation

3J. Testicular tumours

(7 marks × 10 = 70 marks)

