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# MANIPAL UNIVERSITY

**DIPLOMA IN RADIO-DIAGNOSIS (D.M.R.D.) EXAMINATION – APRIL 2010**

**SUBJECT: PAPER I: BASIC SCIENCES**

Monday, April 05, 2010

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

1. Discuss the principle of acoustics applicable to ultrasound imaging. Describe in brief the construction of transducers used in real time ultrasound. Discuss in brief the various ultrasonography controls.

(34 marks)

2. **Write short notes on:**

2A. <sup>99m</sup>Tc labeled radionuclide scans

2B. X-ray beam restrictors

2C. CT numbers and CT windowing

2D. MRI artifacts

2E. Nephrogenic systemic fibrosis

2F. Pregnancy and radiation

HEALTH SCIENCES LIBRARY

(11×6 = 66 marks)



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## MANIPAL UNIVERSITY

**DIPLOMA IN RADIO-DIAGNOSIS (D.M.R.D.) EXAMINATION – APRIL 2010**

**SUBJECT: PAPER II: GASTROINTESTINAL TRACT, GENITOURINARY TRACT,  
CARDIOVASCULAR SYSTEM AND BREAST**

Tuesday, April 06, 2010

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

1. Enumerate the causes of lower GIT bleed and discuss the role of Radiology in evaluation and management of lower GI bleed.

(34 marks)

2. **Write short notes on:**

- 2A. Retroperitoneal fibrosis.  
2B. Chronic pyelonephritis.  
2C. Ultrasound and Colour Doppler features of DVT.  
2D. Fetal circulation.  
2E. Post operative breast imaging.  
2F. Recommendations for breast screening.

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(11×6 = 66 marks)



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## MANIPAL UNIVERSITY

**DIPLOMA IN RADIO-DIAGNOSIS (D.M.R.D.) EXAMINATION – APRIL 2010**

**SUBJECT: PAPER III: RESPIRATORY SYSTEM, BONES (MUSCULOSKELETAL SYSTEM)  
HEAD AND NECK (CNS)**

Wednesday, April 07, 2010

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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1. What are the seronegative arthropathies? Discuss in detail their Radiological features.

(34 marks)

2. Write short notes on:

2A. Alveolar Microlithiasis

2B. Neuroenteric cyst

2C. Empyema thoracic

2D. Craniosynostosis

2E. Cerebral edema

2F. Orbital pseudotumour

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(11×6 = 66 marks)

