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MANIPAL UNIVERSITY**THIRD YEAR B.Sc. M.I.T. DEGREE EXAMINATION – DECEMBER 2010****SUBJECT: PHYSICS AND DARK ROOM TECHNIQUES**

Monday, December 13, 2010

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer all questions.**

✍ **Each question carries equal marks.**

- 1A. Draw a labeled diagram of x-ray circuit. Explain stand by circuit and filament boosting circuit.
- 1B. Explain three phase generator used for the generation of diagnostic x-rays.
2. Explain the attenuation of an x-ray beam passing through an object.
3. **Write a short note on:**
 - 3A. Photosensitive material.
 - 3B. Latent image.
4. Write a note on shielding, while planning for a routine radiography department.
5. Describe pH scale and its significance on radiographic processing.



MANIPAL UNIVERSITY**THIRD YEAR B.Sc. M.I.T. DEGREE EXAMINATION – DECEMBER 2010****SUBJECT: RADIOLOGICAL PROCEDURES**

Wednesday, December 15, 2010

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer all questions. Each question carries EIGHT marks.**

1. Write in detail about Indications, Contraindications and Procedure of Lumber Myelogram.
2. Write in detail about Contrast media used in GIT.
3. Write about Indications Complications and Procedure of Barium Swallow.
4. **Write short note on:**
 - 4A. Contraindications and Preparation for IVU.
 - 4B. Preparation and Complication of Hysterosalpingography.
5. Write about Indications, Procedure and Complication of Dacrocystography.

✍ **Describe the following radiographic views:**

6. Wrist- AP and Lateral.
7. Lumber Spine- AP and Lateral.
8. KUB.
9. Forearm- AP and Lateral.
10. Mortis View.



MANIPAL UNIVERSITY**THIRD YEAR B.Sc. M.I.T. DEGREE EXAMINATION – DECEMBER 2010****SUBJECT: NEW IMAGING MODALITIES AND RECENT ADVANCES**

Friday, December 17, 2010

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer all the questions. Each questions carries equal marks.**

1. Define ultra sound. Explain the controls used in USG in detail.
2. Explain the image intensifier in detail with diagram.
3. **Write short note on:**
 - 3A. Advantage and disadvantage of PACS.
 - 3B. Mask subtraction in DSA.
4. Define mammography. Explain the x-ray tube used in mammography.
5. Write MRI protocol of brain in case of stroke.
6. Explain the basic principle of MRI in detail.
7. Write a note on HRCT protocol for chest.
8. **Short note on:**
 - 8A. Method to reduce scan time in MRI.
 - 8B. Method to increase SNR in MRI.
9. Write a note on ultrasound artifacts.
10. Write a protocol for MRI shoulder.

