

MANIPAL UNIVERSITY
THIRD YEAR B.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2015
SUBJECT: PHYSICS AND DARK ROOM TECHNIQUES

Monday, June 01, 2015

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL questions.**

1. Define radioactivity. Elaborate different modes of radioactive decay.
2. Explain the influence of exposure factors on quality of the image.
3. Describe the artifacts seen on fluoroscopic images.
4. Elaborate grid cut off with neat diagram.
5. **Write short note on:**
 - 5A. Anode heel effect
 - 5B. Silver recovery from scrap films
6. Explain the features of characteristic curve.
7. Describe AC and DC power supply with examples.
8. Elaborate on darkroom construction and siting.
9. What is the cause of geometric unsharpness? Explain how to reduce it.
10. Why do we need transformers? State the laws of transformers and explain.

(8 marks × 10 = 80 marks)



MANIPAL UNIVERSITY**THIRD YEAR B.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2015****SUBJECT: RADIOLOGICAL PROCEDURES**

Wednesday, June 03, 2015

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **Answer ALL questions.**

1. Briefly explain and classify the different types of Embolic agents.
2. Describe BMFT in detail.
3. Describe the Indication, Contraindication, Technique and Procedure for Myelography.
4. Explain the Procedure for FTR in detail.
5. Write short notes on Filming Technique in Barium Meal, Barium Swallow and Barium Enema.

✍ **Describe the following Radiographic views:**

6. “Skyline” view
7. “Mortise” view
8. “Swimmers” view
9. “Axial” view for Shoulder
10. “Stenvers” view

(8 marks × 10 = 80 marks)



MANIPAL UNIVERSITY**THIRD YEAR B.Sc. M.I.T. DEGREE EXAMINATION – JUNE 2015****SUBJECT: NEW IMAGING MODALITIES AND RECENT ADVANCES**

Friday, June 05, 2015

Time: 10:00-13:00 Hrs.

Max. Marks: 80

✍ **All the questions are compulsory.**

1. Write the protocol for MRI Brain in case pituitary lesion. (8 marks)
2. Explain in detail the components used in CR. (8 marks)
3. Write in detail about the magnets and different coils used in MRI. (8 marks)
4. Draw and explain Gamma camera. (8 marks)
5. Explain the principle of CT scanner. Add a note on image reconstruction in CT. (5+3 = 8 marks)
6. Write about the different types of image display in ultrasonography. (8 marks)
7. What are artifacts? Explain CT artifacts in detail. (2+6 = 8 marks)
8. Explain the components of PACS. Add a note on advantages and disadvantages of PACS. (4+2+2 = 8 marks)
9. Explain the types of transducers. (8 marks)
10. Write the CT protocol for abdomen. (8 marks)

