

GUJARAT TECHNOLOGICAL UNIVERSITY
B. E. - SEMESTER – VII • EXAMINATION – WINTER 2012

Subject code: 170303**Date: 01/01/2013****Subject Name: Medical Imaging Technology****Time: 10.30 am - 01.00 pm****Total Marks: 70****Instructions:**

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) Explain Interaction of X-ray with matter in detail. **07**
(b) Explain Principle of CT Scan. Explain various generation of it. **07**
- Q.2** (a) Define Relaxation process and Explain A-Mode scan in detail. **07**
(b) Explain Gantry as principle component of CT scan system. **07**
- OR**
- (b) Define Pixel and Voxel and Explain Image Reconstruction technique of CT Scan system. **07**
- Q.3** (a) Explain Xeroradiography procedure in detail. **07**
(b) Explain pulse wave Doppler for blood flow measurement. **07**
- OR**
- Q.3** (a) Explain Fluoroscopy in detail. **07**
(b) Explain color Doppler flow imaging. **07**
- Q.4** (a) Write a short note on Rectilinear Scanner. **07**
(b) Write a short note on SPECT. **07**
- OR**
- Q.4** (a) Write a short note on PET Scan. **07**
Q.4 (b) State different types of Coil used in MRI and explain it. **07**
- Q.5** (a) Explain in detail Principle of MRI and explain Larmor frequency. **07**
(b) State and explain Clinical applications of Thermography. **07**
- OR**
- Q.5** (a) Explain in detail basic Block diagram of MRI system. **07**
(b) Explain Image Intensifier and Intensifying screen for X-ray. **07**
