

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII • EXAMINATION – WINTER • 2014****Subject Code: 170303****Date: 04-12-2014****Subject Name: Medical Imaging Technology****Time: 10:30 am - 01:00 pm****Total Marks: 70****Instructions:**

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

- Q.1** (a) What is advantage of CT over X ray? Explain different Operation modes of CT Scan Machine. **07**
- (b) Explain Different Components of X ray Machine. **07**
- Q.2** (a) Explain Different Biological Effects of Ionizing Radiation. **07**
- (b) Draw and Explain basic components of Fluoroscopy. **07**
- OR**
- (b) Short Note: Xeroradiography **07**
- Q.3** (a) Explain Piezoelectric effect & Ultrasonic Transducers in detail. **07**
- (b) Enlist different Modes of Ultrasound & explain A mode of Ultrasound with necessary Block Diagram. **07**
- OR**
- Q.3** (a) Explain color Doppler flow imaging in detail. **07**
- (b) Enlist different Modes of Ultrasound & explain B mode of Ultrasound with necessary Block Diagram. **07**
- Q.4** (a) Write a Short Note on Infrared Thermography **07**
- (b) Write a short Note on Nuclear Radiation Detectors. **07**
- OR**
- Q.4** (a) Short Note: Gamma Camera **07**
- (b) Explain Interaction of Nuclear Particles with Matter. **07**
- Q.5** (a) Short Note: LST **07**
- (b) Explain Basic Principle and Components of Angio interventional Radiology. **07**
- OR**
- Q.5** (a) Short Note: Biological Effects of Ultrasound. **07**
- (b) Short Note: Positron Emission Tomography **07**
