

GUJARAT TECHNOLOGICAL UNIVERSITY
BE - SEMESTER-VII • EXAMINATION – WINTER 2013

Subject Code: 170303**Date: 07/12/2013****Subject Name: Medical Imaging Technology****Time: 10:30 TO 01:00****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) Explain interactions between radiation and matters. **07**
(b) Draw and explain block diagram of x-ray machine. **07**
- Q.2** (a) Draw and explain construction of image intensifier. **07**
(b) What is fluoroscopy? Explain constructional diagram of fluoroscopic instrument. **07**
- OR**
- (b) Explain xeroradiography. **07**
- Q.3** (a) Explain different generation CT Scanners. **07**
(b) What is piezo electric effect? Explain ultrasonic transducer used in sonographic machine. **07**
- OR**
- Q.3** (a) Explain principle of magnetic resonance imaging. **07**
(b) Explain single photon emission computed tomography. **07**
- Q.4** (a) Draw and explain basic pulse echo system. **07**
(b) What is CT number? Explain any one image reconstruction technique of Computed tomography. **07**
- OR**
- Q.4** (a) Explain different types of high voltage generator circuit of x-ray machine. **07**
(b) Explain positron emission tomography. **07**
- Q.5** (a) Explain interaction of photons with matters. **07**
(b) Explain different x-ray detectors. **07**
- OR**
- Q.5** (a) Write a note on digital radiography. **07**
(b) Write a note on microwave thermography. **07**
