

**III B.Tech II Semester Supplementary Examinations,  
November/December 2005  
MEDICAL IMAGING TECHNIQUES  
(Bio-Medical Engineering)**

**Time: 3 hours**

**Max Marks: 80**

**Answer any FIVE Questions  
All Questions carry equal marks**

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1. Write short notes on:
  - (a) X-ray tube Filters
  - (b) Grids
  - (c) X-ray detectors
  - (d) Beam Restrictors [16]
2. Mention the determinants of Biological effects? Describe the short term and long term effects of X-ray radiation? [16]
3. Describe the uses of application of Computed Tomography. [16]
4. Describe the mechanism of image formation in Diagnostic Ultrasound. [16]
5. What are the biological effects of Ultrasound waves? [16]
6. Describe briefly the generation and detection of Nuclear Emission. [16]
7. Explain the generation and detection of NMR signal? [16]
8. What are the different imaging methods available in Magnetic Resonance Imaging? Briefly describe them. [16]

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