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Total Number of Pages : 01

B.Tech  
PCBM4402

8<sup>th</sup> Semester Back Examination 2018-19

MEDICAL IMAGING TECHNIQUES

BRANCH : CSE, IT

Time : 3 Hours

Max Marks : 70

Q.CODE : F065

Answer Question No.1 which is compulsory and any FIVE from the rest.  
The figures in the right hand margin indicate marks.

- Q1 Answer the following questions : (2 x 10)**
- a) What is X-ray Films?
  - b) Define Digital Radiography.
  - c) What is the use of mobile X-ray units?
  - d) Write the applications of B-scan
  - e) What is use of Viewing system of CT-scan?
  - f) Define Gantry geometry.
  - g) Mention Advantages of CT Scanning.
  - h) Write on Advantages of NMR Imaging
  - i) What is Gamma Camera?
  - j) What is Infrared Imaging
- Q2 a) What are the risks from ionizing radiation associated with medical x-rays? (5)**  
Discuss them
- b) Discuss the common occupational hazards associated with performing medical imaging procedures. (5)**
- Q3 a) Explain the different components of x-ray units. (5)**  
**b) Discuss the Processing system of CT scanning (5)**
- Q4 a) Compare between the MRI and CT scan machine (5)**  
**b) Write notes on physics of Ultrasonic waves (5)**
- Q5 a) Discuss the working Principle of Emission CT (5)**  
**b) Describe the different modes of scans (5)**
- Q6 Discuss the principles of NMR Imaging Systema and its basic NMR Components (10)**
- Q7 Discuss in detail on generation & detection of ultrasound (10)**
- Q8 Write short answer on any TWO : (5 x 2)**
- a) High frequency Generator
  - b) Ophthalmic Imaging
  - c) M-mode