

[LF 1014]

OCTOBER 2014

Sub. Code: 4016

M.Sc., MEDICAL PHYSICS DEGREE EXAMINATION
(Revised Regulations for Candidates admitted from 2010-2011 Batch onwards)
FIRST YEAR
PAPER VI – PHYSICS OF MEDICAL IMAGING

Q.P. Code : 284016

Time : Three hours

Maximum : 100 marks

I. Elaborate on : **(2 x 20 = 40)**

1. Discuss in detail the principles of image formation in computed tomography scanner. Describe the various generations CT scanner with special emphasis on multislice CT.
2. a) Explain in detail the principles and working of a rotating anode x-ray tube.
b) Discuss about the various reasons for x-ray tube failure.
c) Briefly discuss about the z-axis flying focal spot.

II. Write notes on: **(10 x 6 = 60)**

1. Factors affecting image quality in CT
2. Signal encoding in MRI
3. Radiographic film
4. Modulation Transfer Function.
5. Artefacts in computed radiography
6. Gradient echo sequence
7. Direct digital radiography
8. Mammography equipment
9. Types of radiographic grids
10. Write a short note on digital subtraction angiography
