

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0321]

MARCH 2021

Sub. Code: 4016

(OCTOBER 2020 EXAM SESSION)

M.Sc. MEDICAL PHYSICS

FIRST YEAR (From 2010-2011 onwards)

PAPER VI – PHYSICS OF MEDICAL IMAGING

Q.P. Code : 284016

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. a) Explain in detail about the interaction of x-ray with human body.
b) With the help of neat sketch explain the construction and working of modern rotating anode x-ray tube.
2. Explain in detail the construction and working of an image intensifier and application in digital subtraction angiography.

II. Write Short Notes on:

(10x6 = 60)

1. Full wave rectifiers.
2. Reasons for grid cut off.
3. Image artifacts in MRI.
4. Write about Dental X ray unit.
5. Modes of display in ultrasound.
6. T1 AND T2 relaxation time.
7. Filtration in radiography.
8. Direct DR system.
9. Scatter reduction in x-ray quality.
10. Transducer design in ultrasound
