

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

[AHS 0423]

APRIL 2023

Sub. Code: 1851

B.Sc. RADIOGRAPHY AND IMAGING TECHNOLOGY

THIRD YEAR (Regulation 2018-2019 onwards)

PAPER I – EQUIPMENTS OF ADVANCED MODERN IMAGING MODALITIES

Q.P. Code : 801851

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Describe in detail the parts of MRI equipment. MRS protocol and image acquisition. Name few MRI artifacts.
2. Principles and functions of PET CT. Advantages and limitation of PET CT.
3. Describe about the principle of Piezo-electric effect. Discuss about types of Transducers. Various modes of Ultrasound.

II. Write notes on:

(8 x 5 = 40)

1. Digital Breast Tomosynthesis (draw a diagram).
2. Computer Radiography (CR) reader.
3. Dual energy CT.
4. Magnification Mammography.
5. Describe in detail about the construction of Mammogram equipment.
6. Pulse sequences in MRI.
7. Protocol for CT Aortogram, CT Artifacts.
8. DSA basic principle.

III. Short answers on:

(10 x 3 = 30)

1. Chemical shift artifact.
2. ECG gating.
3. Define TRUS. Explain in detail about the transducer used for TRUS.
4. Reverberation artifact in USG.
5. Bone Density Scan (DEXA).
6. Quality Assurance in Computed Tomography.
7. Windowing in CT.
8. Picture Archiving and Communication Systems (PACS).
9. Grey scale in CT.
10. Shimmiing.
