

**VINAYAKA MISSION'S RESEARCH FOUNDATIONS, SALEM  
(Deemed to be University)**

**DIPLOMA IN RADIOLOGY AND IMAGING TECHNOLOGY  
EXAMINATION – March 2019  
Second Year**

**EQUIPMENTS, BASIC TECHNIQUES OF MODERN  
IMAGING MODALITIES**

Time: Three hours

Maximum: 75 marks

**I. Write an essay on any ONE of the following: (1 x 20 = 20)**

1. Explain in detail the different types of CT artifacts.
2. Explain in detail the various factors influencing MR signal to noise ratio.

**II. Write short notes on any TWO of the following: (2 x 10 = 20)**

3. Write in detail the construction and working of ultrasound transducer.
4. CT image reconstruction techniques.
5. Explain with diagrams any two generations of CT scanner.
6. MRI knee joint protocol.

**III. Write short answers on any SEVEN of the following: (7 x 5 = 35)**

7. CT numbers.
8. T1 and T2 image weighting in MRI.
9. Free induction decay.
10. Window width and window level.
11. Seldinger's technique.
12. Radiation dose reduction measures in CT.
13. Chemical shift artifact.
14. PET principle.
15. CT contrast media.
16. MRI Moire artifact.