

Rajiv Gandhi University of Health Sciences, Karnataka  
III Year B.Sc. (M.I.T) Degree Examination – 16-May-2023

Time: Three Hours

Max. Marks: 100 Marks

Diagnostic Imaging Techniques and Modalities (RS-4)

**Q.P. CODE: 3293**

Your answers should be specific to the questions asked.  
Draw neat labeled diagrams wherever necessary



**LONG ESSAYS (Second Question Choice)**

2 x 10 = 20 Marks

1. Explain the generations of computed tomography.
2. MRI safety.  
**OR**  
Construction of transducer.

**SHORT ESSAYS (Question No 5 & 10 choice)**

10 x 5 = 50 Marks

3. Radiopharmaceuticals.
4. Slip ring technology.
5. FLAIR sequence  
**OR**  
Modes of display in USG.
6. Discuss the MRI artefacts.
7. Cardiac CT.
8. Define SNR and discuss the factors affecting the SNR.
9. A patient with history of acute onset right sided weakness came for MRI.
10. Explain the principles of IV contrast bolus tracking with appropriate diagram.  
**OR**  
Explain the interaction of X-ray with matter.
11. Write about the patient preparations of CT scan.
12. Radioactivity.

**SHORT ANSWER**

10 x 3 = 30 Marks

13. Quenching.
14. Voxel and pixel.
15. Linear attenuation coefficient.
16. Frequency and wave length of ultrasound.
17. Precession and precessional frequency.
18. Resolution and contrast.
19. Hounsfield unit.
20. DWI
21. T1 and T2 weighted sequence.
22. USG coupling agent.

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