QP CODE: 201018 **Reg. No.....**

Second Year B.Sc MRT Degree Supplementary Examinations September 2024
Radiation Physics I

Time: 3 Hours **Total Marks:100**

- ***Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space***
- ***Answer all parts of a single question together • Leave sufficient space between answers***

Essays: **(3x10=30)**

1. What is Line focus Principle. Briefly explain how the gain is improved in a rotating anode tube compared to fixed anode tube
2. Explain in detail about the following process and their application
   a) Fluorescence b) Phosphorescence c) Luminescence
3. List the various interactions by which the radiation is being attenuated in a medium. Briefly explain in detail about the predominant interaction in diagnostic radiology

Short notes: **(8x5=40)**

4. Pair production
5. Different generations of CT
6. Grids and characteristics
7. Myelography
8. Gamma, latitude and film speed
9. Rating charts
10. Hooded anode tube
11. Characteristics of radiographic images

Answer briefly: **(10x3=30)**

12. Synchronous timer
13. Kerma
14. Disadvantages of self-rectified X-ray tube
15. kV stabilizer
16. Scintillation detector
17. High tension transformer
18. Primary Radiological Image
19. kVp meter
20. 6-pulse 6-rectifier generators
21. Exposure rate constant

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