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

Second Year B.Sc MRT Degree Regular/Supplementary Examinations April 2022

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. Explain the principle and operation of computed tomography. Give a brief note on the different generations of computed tomography.
2. With the help of a neat diagram explain the various regions of operation of a gas filled detector.
3. Draw a diagram of X ray spectrum at 100kVp. Explain how the various factors affects X-ray Spectrum

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

4. Digital Subtraction Angiography
5. Film Gamma and Speed
6. Xeroradiography
7. Types of Grids
8. Timers in X ray machine
9. Photoelectric Effect
10. Chemical dosimeters
11. Intensifying screens

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

12. Self-Rectification
13. Kerma and Absorbed dose
14. Flat panel detectors
15. Film Latitude
16. Orthopantamogram
17. Pair Production
18. Continuous X rays
19. Electronic Equilibrium
20. Contrast and Sharpness
21. Linear attenuation coefficient

****