

QP CODE: 201018

Reg. No.....

**Second Year B.Sc MRT Degree Supplementary Examinations
March 2019**

Radiation Physics I

Time: 3 Hours

Total Marks:100

- **Answer all questions**

Essays:

(3x10=30)

1. Describe interaction of radiation with matter and explain each interaction process.
2. Explain the principle of gas filled detectors with a graph and free air ionization chamber.
3. Describe a single phase X-ray generator circuit.

Short notes:

(8x5=40)

4. Characteristic X-rays
5. Line focus principle
6. Thermo luminescent dosimeter
7. H&D curve
8. X-ray tube with a figure
9. Image intensifier
10. Penumbra
11. Inherent and added filtration.

Answer briefly:

(10x3=30)

12. Half wave rectifier
13. Heel effect
14. Linear attenuation coefficient
15. Film gamma
16. Mammography
17. Grid
18. Latent image
19. Exposure rate constant
20. Unsharpness
21. Exposure factors in imaging
