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

Second Year B.Sc MRT Degree Supplementary Examinations, September2016

RADIATION PHYSICS I

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

- **Answer all questions**

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

1. Explain the construction and working of intensification screens and factors in which intensification depends. Discuss the advantage of rare earth screens.
2. Explain the three regions of operation of a gas filled detector. Describe thimble chamber.
3. Discuss the image intensifier. Explain its advantage over dark room fluoroscopy.

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

4. Latent image
5. Process of continuous x-ray generation
6. Pair production and annihilation reaction
7. Scintillation chamber
8. Evaluation of grid performance
9. Computed radiography (CR)
10. Different radiation quantities and its units.
11. Calculate the opacity of an x-ray film if the percentage of light transmitted by it is 25%

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

12. What is radiation. Explain ionizing and non ionizing radiation.
13. Dose equivalent and effective dose equivalent
14. Radiation dose limits
15. HVT and TVT
16. Speed of a film
17. Amorphous selenium
18. Brag peak
19. Space change effect
20. What are the factors affecting the photo electric effect and how does it varies.
21. Conversion factor in image intensifier.

****