

QP CODE:201018

Reg.No.....

Second Year B.Sc MRT Degree Examinations, April 2016

RADIATION PHYSICS I

Time : 3 Hours

Total Marks:100

- **Answer all questions**

Essays:

(3x10=30)

1. Describe the components of an X-ray tube with the help of a neat diagram.
Explain the functions of each components.
2. Describe in detail H & D curve. What is the importance in diagnostic radiology .
3. What is mammography . Explain the importance of heavy metal filters in mammography X-ray unit.

Short notes:

(8x5=40)

4. Structure of an X-ray film explain emulsion layer
5. Self rectification
6. What is photo electric effect . Explain the importance in diagnostic radiology.
7. G.M. Counter
8. Potter bucky grid
9. Digital radiography
10. Basic principles of radiation detection
11. Calculate the optical density of an x-ray film if the percentage of light transmitted by it is 50%

Answer briefly:

(10x3=30)

12. Thermionic emission
13. Heel effect
14. Dose and KERMA
15. Stroboscopic effect
16. OPG
17. Speed of a film
18. Exposure rate constant
19. Subject contrast
20. Energy to mass conversion interaction
21. Grid ratio.
