

Time: 3 Hours

Max Marks: 80

Note: Draw diagrams whenever necessary.

Write an essay on any TWO of the following questions:

2 X 10 = 20

1. What is Attenuation? What are the factors which affect it? What is linear attenuation coefficient and Half value layer?
2. Mention various interactions of x-rays with matter. Write in detail about photoelectric effect.
3. What are the biological effects of radiation? Write about various steps to be taken for radiation protection in the department?

Write a short note on any FIVE of the following:

5 X 6 = 30

4. Compton scatter.
5. What is a) Fluorescence and b) Phosphorescence
6. TLD Badge.
7. a) Absorbed dose b) Equivalent dose.
8. Annihilation reaction.
9. Ionization chamber.

Write briefly on the following:

10 X 3 = 30

10. When and where were x-rays discovered?
11. Types of digital radiography.
12. Standard sizes of x-ray films.
13. Function of grid.
14. Function of filter in x-ray tube.
15. What are Auger electrons?
16. Mention three properties of x-rays.
17. What is stochastic effect? Give one example.
18. What is Non stochastic effect? Give one example.
19. KERMA.