

Rajiv Gandhi University of Health Sciences

II Year M. Sc Medical Imaging Technology - OCT-2019

[Time: 3 Hours]

[Max. Marks: 80]

Radiation Evaluation and Protection in Diagnostic Radiology

Q.P. CODE: 9548

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

LONG ESSAY (Answer Any Two)

2 X 10 = 20 Marks

1. Explain about biological aspects of radiation protection.
2. Explain the use of the radiation quantity, equivalent dose.
3. Discuss about ARS and its major response stages.

SHORT ESSAY (Answer Any Eight)

8 X 5 = 40 Marks

4. Collective effective dose
5. Describe threshold dose.
6. Linear energy transfer
7. ICRP
8. Effective dose limiting system
9. Explain about a) Measuring skin dose directly b) Bone marrow dose c) Genetically Significant Dose (GSD).
10. Discuss on the categories of radiation shielding.
11. Note on leak radiation
12. Optically stimulated luminescence dosimeter
13. Late somatic effects

SHORT ANSWERS (Answer Any Ten)

10 X 2 = 20 Marks

14. What is attenuation?
15. What are the cause of genetic mutation?
16. Model for ALARA concept
17. Positive beam limitation
18. Gonadal dose
19. TLD
20. Collective effective dose
21. BERT
22. Advantages and disadvantages of TLD over film badge
23. Source to skin distance
24. Grid ration
25. Components of pocket ionization chamber
