

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[AHS 0122]

JANUARY 2022

Sub. Code: 1414

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSION)

DIPLOMA IN RADIOLOGY IMAGING TECHNOLOGY

SECOND YEAR – (Regulation from 2010-2011)

PAPER IV – QUALITY CONTROL IN RADIOLOGY AND RADIATION SAFETY

Q.P. Code: 841414

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. How dose time, distance, shielding play a role in radiation control?
2. Quality assurance test for fluoroscopy units?
3. Biological effect of radiation?

II. Write notes on:

(10 x 5 = 50)

1. Measurement of CT dose index?
2. Radiation units?
3. Describe shielding materials in radiation control?
4. Inverse square law?
5. Explain the principle and working of pocket dosimeter?
6. Explain Geiger Muller counter?
7. Tube housing leakage?
8. Explain about the painting and flooring of an X-Ray dark room.
9. How will you plan the construction of an X-Ray room?
10. Explain AERB recommendation on dose limit for radiation workers.

III. Short answers on:

(10 x 2 = 20)

1. What is lead equivalence?
2. Draw one X-Ray radiation warning sign?
3. ALARA?
4. Swipe test?
5. Focal spot size assessment?
6. Linear energy transfer?
7. Write short note on Thermoluminescence Dosimeter?
8. Ten day rule?
9. Equivalent dose and effective dose?
10. Kvp, mAs?
