

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

[AHS 0122]

JANUARY 2022

Sub. Code: 1853

(FEBRUARY 2021 & AUGUST 2021 EXAM SESSION)

B.Sc. RADIOGRAPHY AND IMAGING TECHNOLOGY

THIRD YEAR (Regulation 2018-2019)

**PAPER III – QUALITY CONTROL, RADIOBIOLOGY & RADIATION SAFETY
IN RADIODIAGNOSIS/IMAGING OTHER THAN X-RAY RELATED**

Q.P. Code : 801853

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Explain in detail about the Biological Effects of Radiation.
2. What is the aim of Radiation Protection? Explain in detail the three principal methods by which the radiation exposure can be minimized.
3. Describe in detail the various steps to obtain registration of an X-ray machine with AERB.

II. Write notes on:

(8 x 5 = 40)

1. Free Air Ionization chamber.
2. Linear Energy Transfer.
3. Sources of Radiation.
4. Explain briefly the procedure for congruence of optical and radiation field test.
5. Good work practice in Diagnostic Radiology.
6. Detector Efficiency.
7. Write briefly the Guidelines to use TLD Badge.
8. What are the Mechanical tests to be performed in CT scanner?

III. Short answers on:

(10 x 3 = 30)

1. Quality factor.
2. Acute exposure.
3. i). Roentgen ii) Flux
4. What is meant by the term Quality Assurance?
5. Any three responsibilities of Licensee.
6. What are the five factors that the attenuation depends on?
7. What is Radiation survey?
8. Radiation Symbol and Warning sign.
9. Define i)HVL ii) TVL
10. Define i) KERMA ii) ALARA.
