

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

[AHS 0921]

**SEPTEMBER 2021
(MAY 2021 EXAM SESSION)**

Sub. Code: 2404

**M.Sc. RADIOTHERAPY TECHNOLOGY
FIRST YEAR (From 2019-2020 onwards)
PAPER IV – ADOPTION OF NEW RADIOTHERAPY TECHNOLOGY,
RADIATION HAZARDS, EVALUATION AND CONTROL
*Q.P. Code : 282404***

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on: (2 x 20 = 40)

1. Physical components of a linear accelerator.
2. Enlist the possible errors that can occur in a external beam radiotherapy, describe the methodology and equipments used to measure these errors.

II. Write Short Notes on: (10x6 = 60)

1. Measurement and uses of half value thickness & tenth value thickness
2. What is the difference between SRS and SRT?
3. List the different types of shutter systems used in telecobalt machines.
4. The factors which influence the Tissue Air Ratio?
5. Immobilization devices used in external beam radiotherapy.
6. Acceptance tests
7. Constancy checks
8. Where are field instrument and reference dosimeter used and how frequently is a reference dosimeter calibrated.
9. What are the 3 levels of membership in WHO's Radiation Emergency Medical Preparedness and Assistance Network (REMPAN)
10. Which is the National Regulatory Body for radiation in India and its Responsibilities.
