

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

[AHS 0222]

**FEBRUARY 2022
(OCTOBER 2021 EXAM SESSION)**

Sub. Code: 2404

**M.Sc. RADIOTHERAPY TECHNOLOGY
FIRST YEAR**

(Candidates admitted from 2019-2020 onwards – Paper IV)

(Candidates admitted from 2020-2021 onwards – Paper V)

**PAPER IV & V – 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. Patient immobilization devices.
2. Enlist the roles and responsibilities of radiation oncologists, medical physicists, Dosimetrists, radiotherapy technologist in ensuring the quality assurance in a radiotherapy establishment.

II. Write Short Notes on:

(10x6 = 60)

1. List the type and source of errors that can occur in radiation treatments.
2. Quality checks for beam light localiser and scales.
3. Types of Phantoms and beam data acquisition systems in quality assurance
4. How do you calibrate a brachytherapy source.
5. Mechanical and electrical checks that has to be carried out in a Co-60 unit.
6. Tissue Air Ratio & Tissue Maximum Ratio.
7. Advantages of tomotherapy.
8. Beam shaping devices in External beam radiotherapy.
9. What are the preventive maintenance steps you adhere to in your institution.
10. Quality assurance checks for a CT simulator.
