

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

[AHS 1023]

OCTOBER 2023

Sub. Code: 4017

**M.Sc. MEDICAL PHYSICS
FIRST YEAR (From 2020-2021 onwards)
PAPER VIII – PHYSICS OF RADIATION THERAPY**

Q.P. Code: 284017

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Discuss in detail about Klystron, Magnetron and Wave guide.
2. Describe construction and working of RFA and discuss measurement of isodose curves.

II. Write Short Notes on:

(10x6 = 60)

1. What is Grenz ray therapy, ortho voltage therapy?
2. Explain spectral distribution of KV X-rays.
3. Beam collimation, Penumbra, Trimmers.
4. Different shutter systems in teletherapy units.
5. Output calibration of Gamma rays (CO^{60}) unit.
6. How to calibrate X-rays and electrons using TRS 398 protocol?
7. What is synchrotron and cyclotron?
8. Define PDD, TAR and TPR.
9. Discuss different types of filters, How it is used to modify Beams?
10. Explain CTV, PTV and GTV which one is more significant?
