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

[AHS 1022] **OCTOBER 2022** **Sub. Code: 4017**

M.Sc. MEDICAL PHYSICS
FIRST YEAR
(Candidates admitted from 2010-2011 onwards – Paper VII)
(Candidates admitted from 2020-2021 onwards – Paper VIII)
PAPER - VII & 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. Explain the role of wave guide. Discuss about standing and traveling wave guide.

2. Describe in detail about Van De Graff generator, Cyclotron and Betatron.

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

1. Differentiate bolus and compensator, discuss benefit to patient.
2. Define relationship between TAR and PDD.
3. Explain the types of wedge filters and different wedge angles.
4. Discuss commissioning of Medical linear accelerator.
5. What do you understand about ICRU 50 and 62?
6. Write in detail about output factor of a cobalt beam.
7. What is a phantom? Discuss types of phantom.
8. Explain Portal and invivo dosimetry, Electronic portal Device.
9. Application of DICOM image import/export in radiotherapy.
10. Medical application of Radioisotope and RAKR / AKR definition.

*****