

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

[AHS 1123]

NOVEMBER 2023

Sub. Code: 1908

B.Sc. RADIOTHERAPY TECHNOLOGY
FIRST YEAR (Regulation 2014-2015 onwards)
PAPER III – RADIOTHERAPY PHYSICS & PRINCIPLES OF RADIOTHERAPY
Q.P. Code: 801908

Time: Three Hours

Answer All questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. Explain about the construction and working of a Remote afterloading Brachytherapy Unit.
2. Write about SSD, SAD and Rotational techniques. Write down the procedure to convert PDD at a particular SSD to PDD of another SSD.
3. Write in detail about the various modes of Interaction of Photons with matter.

II. Write notes on:

(8 x 5 = 40)

1. Tissue Air Ratio.
2. Role of Immobilisation in Radiotherapy.
3. Styrofoam cutter.
4. Relationship between Linear attenuation coefficient and HVL.
5. Wave guide.
6. Phantom and its types.
7. Tissue compensators.
8. Procedure for Acquiring port films.

III. Short answers on:

(10 x 3 = 30)

1. Attenuation.
2. Stopping power ratio.
3. Ionisation and excitation.
4. Energy absorption coefficient.
5. Wedges.
6. Physical characteristics of Electron beam.
7. Write any two Cytotoxic drugs.
8. Define Gray.
9. MLC.
10. Isodose curves.
