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

[AHS 1022]   **OCTOBER 2022**   **Sub. Code: 4011**

M.Sc. MEDICAL PHYSICS
FIRST YEAR
(Candidates admitted from 2010-2011 onwards - Paper - I)
(Candidates admitted from 2020-2021 onwards - Paper - II)
PAPER I & II – RADIATION PHYSICS

Q.P. Code: 284011

Time : Three Hours   **Maximum : 100 marks**

Answer ALL questions

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

1. Explain in detail the various nuclear reactions with examples.

2. Describe in detail the construction and working of transformers, Describe various losses in transformer.

II. Write Short Notes on   **(10 x 6 = 60)**

1. Ionization and Radiation losses.
2. Derive the relationship between half value layer and linear attenuation coefficient.
3. Classical theory of inelastic collision
4. Compton effect of radiation.
5. Explain about radioactivity.
6. What is meant by neutron activation?
7. Equivalent and effective dose.
8. Inverse square law of radiation.
9. What is the radiation exposure at 1 meter distance if it is exposure at 2 meters is 25R?
10. Define Gray and Kerma compare.

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