

[LL 1017]

OCTOBER 2017

Sub. Code: 4011

**M.Sc. MEDICAL PHYSICS EXAMS
FIRST YEAR
PAPER I – RADIATION PHYSICS**

Q.P. Code : 284011

Time : Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain the methods of charged particle interaction with matter.
2. What is Radioactivity? Write the laws of radioactivity and derive the expression for radioactive decay, and half life.

II. Write notes on:

(10 x 6 = 60)

1. Describe the motion of electron in crossed electric and magnetic field.
2. Describe packing fraction and mass defect.
3. Describe transformer and its function with a neat diagram.
4. Define Isotopes, Isobars and Isomers.
5. Describe nuclear fission and fusion.
6. Describe Radiation absorbed Dose and kerma.
7. Write a note on electronic equilibrium.
8. Describe the importance of Photoelectric interaction and Compton interaction in medical application.
9. Describe bremsstrahlung.
10. Write a note on Stopping power.
