

[LI 0416]

APRIL 2016

Sub. Code: 4014

**M.Sc., MEDICAL PHYSICS DEGREE EXAMINATION  
FIRST YEAR  
PAPER IV – RADIATION DOSIMETRY AND STANDARDIZATION**

*Q.P. Code : 284014*

**Time : Three hours**

**Maximum : 100 Marks**

**I. Elaborate on :**

**(2 x 20 = 40)**

1. Compare the external beam calibration protocol of TRS 398 and TRS 277.
2. a) Write down the Principle of chemical Dosimetry.  
b) Explain in detail about the Fricke and FBX Dosimeters.

**II. Write notes on:**

**(10 x 6 = 60)**

1. Equivalent dose and Effective dose.
2. Charge particle equilibrium.
3. Cyclotron produced isotopes.
4. Free air ionization chamber.
5. Spencer Attix theory.
6. Neutron survey meters and calibration.
7. Liquid scintillation systems.
8. Standardisation of beta emitters.
9. Radiochemistry of water.
10. Derive an expression for  $D_{\text{gas}}$ .

\*\*\*\*\*