[LH 0415] **OCTOBER 2015** **Sub. Code: 4015**

M.Sc., MEDICAL PHYSICS DEGREE EXAMINATION
(Revised Regulations for Candidates admitted from 2010-2011Batch onwards)
FIRST YEAR
PAPER V – RADIATION DETECTORS AND INSTRUMENTATION

Q.P. Code : 284015

Time : Three hours **Maximum : 100 marks**

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

1. a. Explain the principle of luminescence.
   b. Explain in detail about thermo-luminescent dosimeters, optically stimulated luminescence dosimeters and Radio-photoluminescent dosimeters.

2. Explain about personnel monitoring. Write in detail about the TLD badge readers.

II. Write notes on: **(10 x 6 = 60)**

1. Liquid scintillation counting system.
2. Calorimeters and radiation dose measurement.
3. AC –DC convertors.
4. JFET.
5. Farmer type ionisation chambers.
6. Methods for detection of neutrons.
7. Explain about film dosimetry systems.
8. Explain in detail about the calibration of brachytherapy source.
9. Radiation Field Analyser.
10. Write about the need for contamination monitor. Explain about head and foot monitors.

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