Reg. No.										

MANIPAL UNIVERSITY

SECOND SEMESTER M.Sc. (MEDICAL RADIATION PHYSICS) DEGREE EXAMINATION – DECEMBER 2014

SUBJECT: RADIATION DETECTION, MEASUREMENT AND INSTRUMENTATION

Wednesday, December 17, 2014

Time: 10:00 – 13:00 Hrs. Max. Marks: 80

Answer ALL the questions.

1. Mention at least two chemical dosimeter and explain each one of them in detail as to how it is used for absorbed dose to water measurement.

(20 marks)

2. Discuss the design, operational characteristics and atleast two applications of GM counters.

(20 marks)

3. Explain the priniciple of TLD with energy level diagram and discuss in detail its characteristics.

(20 marks)

4. **Write short notes on:**

4A. Gamma Zone monitors
4B. Liquid Scintillation Counting system
4C. Parallel plate ion chamber
4D. Water phantom dosimetry system

(5 marks × 4 = 20 marks)