

[LK 0517]

MAY 2017

Sub. Code: 4015

**M.Sc. MEDICAL PHYSICS EXAMS
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. What is personnel monitoring and explain its role in radiation protection? Explain with neat diagram, the working of film badge and TLD badges. List their merits and demerits.
2. Explain the construction and working of ionization chamber, proportional counter and GM counter.

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

1. Working principle of operational amplifier with neat diagram.
2. Well type chamber and its application in brachytherapy.
3. Gamma area monitor.
4. Single channel and multichannel analyser.
5. Chemical dosimeter.
6. AC to DC converter.
7. Calorimeter.
8. Gamma radiography survey meter.
9. Liquid scintillation counter.
10. Solid state Nuclear Track detectors.
