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1511E1254

Candidate's Seat No : _____

M.Sc. Sem.-3 Examination**503****Medical Physics****November-2025**

Time : 2-30 Hours}

[Max. Marks : 70

Q.1 Write an essay about various neutron monitors? [14]

OR

Q.1 Explain about GM counters and Gamma Zone monitors? [14]

Q.2 Write a short note on:
 1) Personal monitoring film badge
 2) Personal monitoring TLD badge [14]

OR

Q.2 Explain about the various commercially available dose detectors and systems? [14]

Q.3 Explain the construction & principle of ionization chamber. Also explain the factors affecting saturation current. [14]

OR

Q.3 Explain in detail about proportional counters. [14]

Q.4 Write a note on Liquid scintillation counting system. [14]

OR

Q.4 Write a note on Whole body counter. [14]

Q.5 Attempt any **seven** out of twelve from the following (Each question is of **two** marks): [14]

- (i) Define the term 'dead time'.
- (ii) Describe the phenomenon of quenching.
- (iii) What is an OSLD?
- (iv) What is drift velocity?
- (v) What are pocket dosimeters?
- (vi) What is a MOSFET?

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- (vii) Why do we need to calibrate dosimeters?
- (viii) What is a teletector?
- (ix) What are RIA counters?
- (x) What is a Gamma Ray Spectrometer?
- (xi) State the important properties that an ideal scintillation material should possess.
- (xii) Define Dynode multiplication factor.

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