2/21

2211E797

Candidate's Seat No :_____

M.Sc Sem-3 Examination

503

Medical Physics

November-2024

Time : 2-30 Hours] **[Max. Marks : 70**

Q.1 Explain any one gas-filled detector with principle, working, diagram & uses. (ionization chamber or proportional counter or GM counter). Also write their advantages and disadvantages. [14]

OR

Q.1 What are semiconductor detectors? Explain its principle, working, and construction. Give its advantages, disadvantages, and uses. [14]

Q.2 What are the ideal properties of a Dosimeter? Explain each of them. [14]

OR

Q.2 Explain Farmer chamber and thimble chamber. Draw their diagram and label its parts. [14]

Q.3 Explain the different neutron monitoring dosimeter. [14]

OR

Q.3 Write a note on hand and foot monitors and gamma area zone monitor . [14]

Q.4 What is gamma ray spectrometry? Explain in detail . [14]

OR

Q.4 Explain whole body counters and air monitor for radioactive gas and particulates. [14]

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

(i) What is Recombination? What are the two types of recombination?

(ii) Compare Radiographic film and Radiochromic film. (write two points each)

(iii) What is Optical Density? Write its formula?

(iv) What is PSDL and SSDL? Name one SSDL available in India.

(v) What is a dosimeter? Write its general formalism.

(P.T.O)

(vi) Write two main points each for a plane parallel chamber and a Brachytherapy chamber. Draw diagram.

(vii) Write a full form of RIA.

(viii) What is the purpose of multi-channel analyser?

(ix) Write a full form of SSNTD.

(x) What is albedo dosimeter?

(xi) Draw a glow curve

(xii) Which materials are used in liquid scintillation?

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