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0504N101

Candidate's Seat No : _____

M.Sc Semester-4 Examination

510

Medical Physics

April-2024

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

Q.1 Explain the justification of practice, its optimization and dose limits. [14]

OR

Q.1 Explain the effective dose, equivalent dose, committed equivalent dose and committed effective dose. What are the radiation weighting factors for proton and neutron. [14]

Q.2 Design a Co-60 facility assuming 50 patients per day and 200 cGy dose delivered per patient. [14]

OR

Q.2 What are the radiation hazards? How they are classified? How they can be accessed and control. [14]

Q.3 What are different treatment techniques for solid radioactive waste. Explain them in detail. [14]

OR

Q.3 What are different types of packages? Explain Type B package in detail. [14]

Q.4 What are the responsibilities of Employer. [14]

OR

Q.4 What are the responsibilities of Radiological Safety Officer (RSO). [14]

P.T.O

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

(i) Write the formula for DAC.

(ii) What is the tissue weighting factor of bone marrow, esophagus and bladder?

(iii) If exposure level at 1 meter is 100 mR. What will be the exposure at 25 cm?

(iv) Write the three basic radiation safety rule.

(v) Write any two points of radiation safety during source transfer operations.

(vi) Write any two special safety feature in Linear accelerators.

(vii) What are the maximum package radiation level allowed?

(viii) What is transport index?

(ix) What is the need of radioactive waste disposal.

(x) Why the physical protection of sources is mandatory?

(xi) How the safety of sources is taken during storage.

(xii) Explain in short import procedure of radioactive source.

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