Roll No. | | | | | | | | | | | | **Total No. of Pages : 02**

Total No. of Questions : 09

B.Sc.(Radiotherapy Technology) (Sem.–5)

RADIOTHERAPY PLANNING & TECHNIQUES IN BRACHYTHERAPY-I

Subject Code : BSRT-502-19

M.Code : 90330

Date of Examination : 14-12-22

Time : 3 Hrs. **Max. Marks : 60**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

1. Write briefly :

a) Define exposure rate constant.

b) Write the equation for production of ^{60}Co.

c) Define radium mass equivalent.

d) What are the instruments to detect radioactivity?

e) What is an isodose curve?

f) Give use of surface moulds.

g) Calculate the number of atoms present in a cobalt –60 isotope after 13 years, if the initial number of atoms present were 10^8.

h) Write about decay constant.

i) What are clinical applications of Cs^{137}.

j) Define Radiotherapy.

SECTION-B

2. Draw a well labelled energy level diagram for the decay of Cobalt-60 nucleus with explanation.

3. Write a note on applications of Radiotherapy.

4. Describe the construction and distribution rules of circular moulds.

5. Write a short note on quiby system.

6. What are the four classifications of brachytherapy based on the dose rate? Explain one of them.

SECTION-C

7. Write a note on design features, radiation sources of brachytherapy.

8. What radioisotopes are used for permanent implants and why?

9. a) What is Paris Technique?

   b) With neat diagram explain Basal points and Basal dose for single plane and double plane implants

   c) What is reference isodose?

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.