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

Total No. of Questions : 09

B.Sc. (Radiotherapy Technology) (Sem.–6)

NUCLEAR MEDICINE, IMAGING TECHNIQUES IN RADIOTHERAPY PLANNING

Subject Code : BSRT601-19

M.Code : 91763

Date of Examination : 04-07-22

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) What are medical imaging techniques?

   b) Enlist the application of MRI.

   c) Explain the principle of SPECT.

   d) Enlist the name of three tracers used in brain imaging.

   e) Write down an application of 3D imaging over 2D imaging radiography.

   f) Explain the biological effects of radionuclides.

   g) What is a physical half-life?

   h) What is the port film?

   i) Explain the uses of EPID.

   j) What is the purpose of fluoroscopy?

SECTION-B

2. Application of functional imaging in radiotherapy planning.

3. A brief note on Computerized tomography.

4. What are ALI and DAC?

5. Write a short note on USG.

6. Describe the role of radionuclides in nuclear medicine?

SECTION-C

7. Describe the pathogenesis of radiation-induced normal tissue injury.

8. Explain the construction and working of PET and its advantages over SPECT.

9. Describe the principle and clinical application of CT scanning.

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.