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

Total No. of Questions : 11

M.Sc. (Radiology & Imaging Technology) (Sem.-1)

ADVANCED PHYSICS OF RADIOLOGY & IMAGING

Subject Code : MRIT 103-21

M.Code : 91376

Date of Examination : 19-01-23

Time : 3 Hrs. **Max. Marks : 70**

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains EIGHT questions carrying FIVE marks each and students have to attempt any SIX questions.**
3. **SECTION-C will comprise of two compulsory questions with internal choice in both these questions. Each question carries TEN marks.**

SECTION-A

1. Answer briefly:

a) What is the principle of CT?

b) Write the function of CT angiography?

c) What do you understand by Helical CT scan?

d) Elaborate MPR and VR.

e) What is CT dose index?

f) Give the description of SPIR sequence.

g) Write the function of shim coils.

h) Give applications of medical ultrasound transducer.

i) What is Doppler ultrasound?

j) Define line density and frame rate.

SECTION-B

2. What are various processes for generation of CT?

3. Describe the CT instrumentation in brief.

4. Discuss about slip ring technology and its advantages.

5. Write a brief note on CT fluoroscopy.

6. Explain the process of 2D Fourier transformation.

7. Write a short note on characteristics of US beam.

8. What are various methods for production of ultrasounds?

9. Write in brief about ultrasound artifacts and ultrasound recording devices.

SECTION-C

10. What is computed tomography? Discuss in detail about image formation and reconstruction in CT.

OR

Write a detailed note on Helical CT scan and processes associated with it.

11. Write an exhaustive note on various modes of pulse sequences in MRI.

OR

Discuss the patterns of interactions of US with matter.

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