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Total No. of Pages : 02

Total No. of Questions : 11

M.Sc. (Radiology & Imaging Technology) (Sem.-3) ADVANCED TECHNIQUES & INSTRUMENTATION OF MRI Subject Code : MRIT301-21 M.Code : 92654 Date of Examination : 12-12-22

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 contains TWO compulsory questions carrying TEN marks each with internal choice and the student has to attempt any ONE from each questions.

SECTION-A

1. Attempt the following :

- a) What is the T1 weighted image?
- b) Write application of MRI.
- c) Enlist various factors that affect the MRI process.
- d) What are the types of magnets?
- e) Write the safety aspects of MRI.
- f) Difference between 2D and 3D fourier imaging.
- g) Define K space representation.
- h) What is angiography?
- i) Write a short note on artifacts.
- j) Define TOF.

SECTION-B

- 2. Write a short note on the proton density image.
- 3. Discuss the principle, procedure and results of the RF transmitter.
- 4. Write briefly about the spin echo sequence.
- 5. Discuss briefly about the modern equipment used in MRI.
- 6. Write the clinical significance of the MRI.
- 7. Describe 2D fourier imaging and explain the purpose of 2D fourier imaging.
- 8. Write a short note on cardiac MRI.
- 9. What is angiography? Explain about MR angiography in detail.

SECTION-C

10. Discuss the principle, procedure and clinical significance of different fourier transformation methods.

OR

What is the weighted image? Explain various types of weighted image methods with their clinical significance.

11. Describe in detail about safety aspects of MRI with clinical relevance.

OR

Discuss the principle, procedure and results of MR spectroscopy.

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.

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