

**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH**

(A DEEMED TO BE UNIVERSITY)



**B.Sc. Allied Health Sciences Third Year (Semester-VI)**

**Examination**

**B.Sc. Imaging Technology**

**Time: 2.30 Hrs.**

**Paper-I**

**[Max. Marks: 80]**

**Sub: MRI Physics and Instrumentation**

**Q.P Code: J6440**

*Your answers should be specific to the questions asked.*

*Draw neat labeled diagrams wherever necessary.*

**LONG ESSAY**

**02 x 10 = 20 Marks**

1. Write about formation of MRI signals in detail.
2. What is magnet? Write various types of magnets.

**SHORT ESSAY (answer any six)**

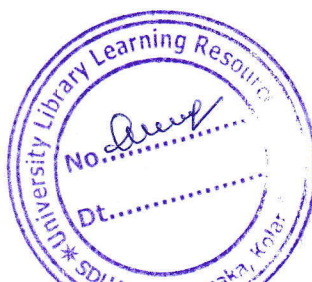
**06 x 05 = 30 Marks**

3. 2D & 3D MR imaging.
4. K-space and Fourier transformation.
5. Signal to Noise Ratio.
6. Resolution.
7. General care of MRI equipment's.
8. Motion-related Artifacts.
9. RF coils.
10. Relaxation.

**SHORT ANSWERS (answer any ten)**

**10 x 03 = 30 Marks**

11. LMV & TMV.
12. TR.
13. TE.
14. Tesla.
15. Quenching.
16. Active shimming.
17. Passive shimming.
18. MR Shielding.
19. Matrix.
20. K-space.
21. Scan time.
22. CNR.



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**B.Sc. Allied Health Sciences Third Year (Semester-VI)**

**September 2022 Examination**

**B.Sc. Imaging Technology**

**Time: 2.30 Hrs.**

**Paper-II**

**[Max. Marks: 80]**

**Sub: MRI Imaging basics and advances in MRI**

**Q.P Code: J6450**

*Your answers should be specific to the questions asked.*

*Draw neat labeled diagrams wherever necessary.*

**LONG ESSAY**

**02 x 10 = 20 Marks**

1. Spin echo pulse sequence
2. MRI Breast planning and protocols

**SHORT ESSAY (answer any six)**

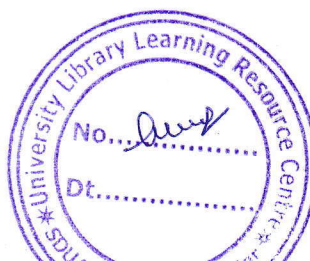
**06 x 05 = 30 Marks**

3. Iron oxide MR contrast
4. Write about MR Spine procedure
5. MR Spectroscopy
6. Dark blood MRA
7. Sequences used for MRI Brain
8. Inversion recovery sequence
9. Write a short notes on fMRI
10. Perfusion methods/techniques

**SHORT ANSWERS (answer any ten)**

**10 x 03 = 30 Marks**

11. Commonly imaged metabolites in MRS
12. Intrinsic contrast parameters
13. MRI contrast agents
14. Indications for MRI
15. Contra-indications of MRI contrast
16. BOLD
17. BF, BV and MTT
18. GRE-EPI
19. FLAIR
20. Frequency encoding
21. Flip angle
22. Echo train length



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**B.Sc. Imaging Technology**

**Time: 2.30 Hrs.**

**Paper-III**

**[Max. Marks: 80]**

**Sub: Interventional radiological procedures**

**Q.P Code: J6460**

*Your answers should be specific to the questions asked.  
Draw neat labeled diagrams wherever necessary.*

**LONG ESSAY**

**02 x 10 = 20 Marks**

1. Explain in detail about forensic radiology?
2. Write about Diagnostic interventional procedures in detail.

**SHORT ESSAY (answer any six)**

**06 x 05 = 30 Marks**

3. What is post-operative choleodochography?
4. Write about peripheral lower limb venography?
5. Write a note on micturating cystourethrography?
6. Explain in brief about the procedure of subtraction angiography?
7. Radiofrequency ablation (RF/RFA).
8. What is Angiography? Write about CE MRA.
9. Mammography.
10. Seldinger technique.

**SHORT ANSWERS (answer any ten)**

**10 x 03 = 30 Marks**

11. Complications of digital subtraction angiography?
12. What are the types of contrast reactions?
13. Soft tissue radiography technique.
14. Duplication radiography?
15. What is macro radiography?
16. Puncher needle.
17. FNAC
18. Embolization.
19. Coronary angiography.
20. Percutaneous Nephrostomy.
21. High kV Technique.
22. Applications of Thermography.

