

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

(A DEEMED TO BE UNIVERSITY)

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

**March 2024 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 MRI instrumentation
2. Write about MR Image Quality In detail.

**SHORT ESSAY (answer any six)**

**06 x 05 = 30 Marks**

3. Safety Consideration in MRI.
4. Quality assurance and Quality control of MRI.
5. General care of MRI equipment's.
6. MRI artifacts.
7. MR Image formation.
8. MR Shielding.
9. Super conductive magnets.
10. Relaxation.

**SHORT ANSWERS (answer any ten)**

**10 x 03 = 30 Marks**

11. NMV
12. TR
13. MRI Brain sequence
14. Flip angle
15. Hydrogen proton and Larmor equation
16. Quenching
17. Resistive magnets
18. Motion Artefacts.
19. Superconducting
20. Matrix size
21. Daily QC
22. Shimming

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

**March 2024 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. MRI safety Consideration for equipment and for the patient.
2. Write DWI

**SHORT ESSAY (answer any six)**

**06 x 05 = 30 Marks**

3. Patient preparation and Positioning of MR spine
4. MR Brain planning and protocols
5. Chemical Shift artefacts
6. Adverse reactions of MR Contrast agents
7. Uses of MRI contrast agents
8. Perfusion methods/techniques
9. MRI Breast protocols
10. MR contrast agents

**SHORT ANSWERS (answer any ten)**

**10 x 03 = 30 Marks**

11. T1Relaxation
12. What are the factors which affect MR image quality and explain any one of them
13. Coils
14. Patient Preparation in MRI
15. TE
16. Flip Angle
17. Creatine (Cr) and Phosphocreatine (PCr)
18. Contraindications for MR Mammogram
19. Clinical applications of MR contrast
20. PD
21. ADC
22. DTI



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

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**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. What is subtraction Radiography? Write about DSA in detail.
2. What is Cholangiography? Write pre and post Cholangiography in detail.

**SHORT ESSAY (answer any six)**

**06 x 05 = 30 Marks**

3. Write about Forensic Radiography
4. What is Tomography? Write a note on it.
5. Central venous catheter placement and Drainage catheter placement
6. Write the following - Puncher needle, Guide wire, Sheaths and Catheters.
7. Macro Radiography
8. Adverse Reactions of Contrast Media.
9. Pheripheral venography of lower limb .
10. Retrograde pyeloureterography

**SHORT ANSWERS (answer any ten)**

**10 x 03 = 30 Marks**

11. Digital Radiography
12. Angiography
13. FNAC
14. Mammography
15. Thermography
16. Cryoablation
17. Microwave ablation
18. Balloon angioplasty
19. Stenting
20. Indications for Percutaneous Nephrostomy
21. Venography
22. Biopsy

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