

SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)



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

September-2023 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 in detail about MR Instrumentation
2. Write about MR Image formation

SHORT ESSAY (answer any six)

06 x 05 = 30 Marks

3. Shimming
4. Write about RF coils
5. Relaxation
6. Quality control of MRI
7. Contrast to Noise Ratio
8. MR Shielding
9. Precession, Processional path and Larmor frequency with equation
10. Safety Consideration in MRI

SHORT ANSWERS (answer any ten)

10 x 03 = 30 Marks

11. Zipper
12. Magic angle
13. Chemical shift
14. Scan time
15. Resolution
16. SNR
17. T1 weighted imaging
18. K-space
19. Slice selecting/encoding gradients
20. Hydrogen proton
21. Write about Surface coils.
22. Quenching

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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. Write about MRI Contrast agent.
2. Write a note on safety consideration of MRI.

SHORT ESSAY (answer any six)

06 x 05 = 30 Marks

3. Out of phase artefacts
4. Write an indications of MR Brain and its safety consideration.
5. FLAIR
6. Fast imaging techniques/sequences
7. Write the following - TE, TR and flip angle
8. Safety consideration for administration of MRI Contrast agent.
9. STIR
10. T1 and T2 weighted Imaging

SHORT ANSWERS (answer any ten)

10 x 03 = 30 Marks

11. What are the uses of DWI
12. What are the uses of T1 weighted Imaging
13. What is Resolution
14. What is Scan time
15. Write the adverse reaction of Contrast media
16. SVS
17. What is Artefacts and write a note on it
18. intrinsic contrast parameters
19. Indications for MR Mammogram
20. Iron oxide MR contrast
21. MR Spine protocols
22. Sequences used for MR Mammogram

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

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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. What is Forensic Radiography? Write in detail about it.
2. Write about Pre-operative and Post-operative Cholangiography.

SHORT ESSAY (answer any six)

06 x 05 = 30 Marks

3. Write a note on Foreign Body Localization radiography.
4. Write about IR Procedures in detail.
5. Write short note on following - Puncher needle, Guide wire, Sheaths and Catheters
6. Write about Coronary angiography procedure
7. Therapeutic procedures done in IR
8. What is Thermography? Write it in detail.
9. What is embolization? Write embolization methods.
10. Seldinger technique

SHORT ANSWERS (answer any ten)

10 x 03 = 30 Marks

11. Mammography
12. FNAC
13. Chemoembolization
14. Indications for Lower limb angiography
15. Digital Radiography
16. Microwave ablation
17. High kV Technique
18. Indications for Peripheral venography of upper limb
19. Cholecystostomy indications
20. Upper limb angiography contraindications
21. Peripheral venography of lower
22. Soft Tissue Radiography