



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

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

April 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 Basic Principles of MRI
2. Write MRI Coils in detail.

SHORT ESSAY (answer any six)

06 x 05 = 30 Marks

3. What is Relaxation? Write about it.
4. Super conductive magnets
5. Permanent magnets
6. Shimming
7. MR Shielding
8. 2D & 3D MR imaging
9. Signal to Noise Ratio
10. Resolution

SHORT ANSWERS (answer any ten)

10 x 03 = 30 Marks

11. Safety Consideration in MRI
12. Cross - talk
13. Weekly QC
14. Scan time
15. K-space
16. Matrix
17. Chemical shift
18. Cryogenes
19. Gauss
20. Quenching
21. Flow motion artifact
22. Main magnet



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

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. Write in detail about Pulse sequences.
2. Write about MR angiography and its types.

SHORT ESSAY (answer any six)

06 x 05 = 30 Marks

3. DWI and b-value/factor and ADC
4. What is Perfusion? Write techniques of perfusions
5. Write about fMRI
6. MR Spectroscopy
7. Sequences used for MRI Brain
8. Patient preparation and Positioning of MR Mammogram
9. MR Spine protocols
10. write about Gadolinium contrast

SHORT ANSWERS (answer any ten)

10 x 03 = 30 Marks

11. TR
12. Excitation pulse
13. FLAIR
14. STIR
15. Perfusion parameters
16. BOLD
17. Methods of spectroscopy
18. Side effects of MR contrast
19. Indications for MRI
20. Iron oxide
21. GRE-EPI
22. Spin echo pulse sequence

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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. Write the following - High kV, Soft Tissue Radiography and Foreign Body Localization
2. Write about diagnostic interventional procedures in detail.

SHORT ESSAY (answer any six)

06 x 05 = 30 Marks

3. Macro, Micro and Multiple radiography
4. Percutaneous Nephrostomy
5. Write about Intracranial angiography
6. High kV Technique and Soft Tissue Radiography
7. Retrograde pyeloureterography
8. What is Angiography? Write about it.
9. Write about lower limb angiography
10. Biopsies and FNAC

SHORT ANSWERS (answer any ten)

10 x 03 = 30 Marks

11. Percutaneous renal puncture
12. Contraindications for Coronary angiography
13. Guide wire
14. Duplication Radiography
15. pre-operative Cholangiography
16. Puncher needle
17. Catheters
18. Neck angiogram
19. Indications for Venography
20. Sheaths
21. Seldinger technique
22. Therapeutic interventional procedures