SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH (A DEEMED TO BE UNIVERSITY) B.Sc. Allied Health Sciences Third Year (Semester-VI) September 2021 Examination B.Sc. Imaging Technology 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. $02 \times 10 = 20 \text{ Marks}$ 1. Write about MR Image Quality Quality assurance and quality control of MRI $06 \times 05 = 30 \text{ Marks}$ SHORT ESSAY (answer any six) 3. Technique-related artifacts 4. Safety Consideration in MRI 5. MR Image production 6. Super conductive magnets 8. Slice, Phase and Frequency selecting/encoding gradients 9. General care of MRI equipment's $10 \times 03 = 30 \text{ Marks}$ SHORT ANSWERS (answer any ten) 14. Precessional frequency 17. Permanent magnets 18. Passive shimming

Time: 2.30 Hrs.

LONG ESSAY

7. RF coils

10. Relaxation

11. RF pulse 12. TMV

15. NMV

19. Pixel 20. MIP

16. Quenching

21. Patient motion

22. Daily QC

13. Proton density

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

September 2021 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

 $02 \times 10 = 20 \text{ Marks}$

- 1. Write in detail about Spin echo pulse sequences
- MR Spectroscopy, Methods/techniques of spectroscopy and Commonly imaged metabolites in MRS

SHORT ESSAY (answer any six)

 $06 \times 05 = 30 \text{ Marks}$

- 3. write about TOF
- 4. What is ASL? Write about it.
- 5. write about fMRI
- 6. Dark blood MRA
- 7. Perfusion and its methods/techniques
- 8. Gradient echo sequence
- 9. MRI Breast protocols
- 10. Patient preparation and Positioning of MR spine

SHORT ANSWERS (answer any ten)

 $10 \times 03 = 30 \text{ Marks}$

- 11. Flip angle
- 12. STIR
- 13. GRE-EPI
- 14. TE
- 15. TR
- 16. Perfusion
- 17. Side effects of MR contrast
- 18. FLAIR
- 19. PPM
- 20. Iron oxide MR contrast
- 21. SPIR
- 22. intrinsic and extrinsic contrast parameters



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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

 $02 \times 10 = 20 \text{ Marks}$

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

SHORT ESSAY (answer any six)

 $06 \times 05 = 30 \text{ Marks}$

- 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)

 $10 \times 03 = 30 \text{ Marks}$

- 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

