

**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH**  
(A DEEMED TO BE UNIVERSITY)

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

March 2021 Examination  
B.Sc. Imaging Technology (IMT)

Time: 2.30 Hrs.

Max. Marks: 80

Paper – I  
Diagnostic Imaging Techniques

Q.P Code: AHS-119

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

**LONG ESSAY**

2 X 10 = 20 Marks

1. Write about Properties of Ultrasound and interaction of ultrasound.
2. Write about principle & working of PET and its uses?

**SHORT ESSAY (Answer any Six)**

6 X 5 = 30 Marks

3. What are the precautions are taken during handling of radiopharmaceuticals?
4. Write about USG transducers/probes and its uses
5. Write about the functioning SPECT? With diagram.
6. Types of transducers arrays
7. Write about the working principle of PET with neat diagram
8. Write about PCPNDT act
9. RIA
10. Write about USG artifacts

**SHORT ANSWERS (Answer any Ten)**

10 X 3 = 30 Marks

11. Gamma camera
12. What is Frequency & Wavelength
13. Alpha decay
14. Define half-life and tenth-life
15. Cyclotron
16. Radio – Pharmaceuticals
17. What is A mode
18. PET & SPECT
19. FNAC
20. Collimators used in gamma camera
21. Cavitation
22. Beta decay

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**Paper – II**

**Radiographic Techniques-II**

**Q.P Code: AHS-120**

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

*Draw neat labelled diagrams wherever necessary.*

**LONG ESSAY**

**2 X 10 = 20 Marks**

1. Explain in detail about percutaneous nephrostomy?
2. Write in detail about RGU & MCU.

**SHORT ESSAY (Answer any Six)**

**6 X 5 = 30 Marks**

3. Write a brief note on macro radiography?
4. Describe about internal jugular venography?
5. Write brief about PTBD?
6. Digital subtraction angiography
7. Write a brief note on coronary angiogram?
8. Write the Patient Preparation for Various procedure
9. How to localize foreign body using radiography?
10. Write about mobile radiography?

**SHORT ANSWERS (Answer any Ten)**

**10 X 3 = 30 Marks**

11. Complications of digital subtraction angiography?
12. Fistulography
13. Retrograde Pyeloureterography
14. MRCP
15. What are the types of contrast reactions?
16. Soft tissue radiography
17. Duplication radiography?
18. What is macro radiography?
19. Sinography
20. What are the complications of IVP?
21. What are the indications of cholangiography?
22. What is coronary angiogram?



**SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH**  
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**Bachelor of Physiotherapy (BPT) Third Year Semester – VI**  
**March-2021 Examination.**

Time: 3.00 Hrs.

[Max. Marks: 100]

**Physiotherapy in Musculoskeletal Conditions and Rheumatology**  
**Q.P Code: B6160**

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

**Long Essay (Answer any Two)**

**2 X 10 = 20 Marks**

1. Define Amputation, Explain indication, complication and management for below knee Amputation.
2. Define osteoarthritis; explain the causes, clinical features and conservative management for OA knee.
3. Write the assessment and physiotherapy management for ACL reconstruction surgery.

**Short Essay (Answer any Ten)**

**10X 5 = 50 Marks**

4. Define Colles' fracture with post-operative physiotherapy management.
5. Explain the clinical features and physiotherapy Management for spondylolisthesis.
6. Describe Physiotherapy management in congenital torticollis.
7. Explain the physiotherapy management and home advises for coccydynia.
8. Explain the physiotherapy management for cervical spondylosis.
9. Describe the causes and physiotherapy management for TOS.
10. Define ankle instability and explain its physiotherapy management.
11. Define plica syndrome, explain its causes and physiotherapy management.
12. Explain the indications and complications of THR.
13. Describe in detail the causes, signs, and symptoms, and physiotherapy management of genu varum.
14. Describe the causes and physiotherapy management for Kyphosis.
15. Explain the common orthopedic deformities and home programme for the child with Cerebral palsy.

**Short Answer (Answer any Ten)**

**10 X 3 = 30 Marks**

16. Causes Impingement syndrome
17. What is Cobb's angle?
18. Grades of tenderness
19. Clinical features of Sacralization
20. What is PRICE?
21. Explain Apley's test
22. What is spinal stenosis?
23. Define IVDP
24. Osteotomy and partial meniscectomy
25. Effects spinal traction
26. Faber's test.
27. Plantar fasciitis.

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

**March 2021 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**

**2 × 10 = 20 Marks**

- 1 a. Explain about spin echo sequences in MRI
- b. Write the advantage and disadvantages of MRI?
- 2 Explain in detail about the different coils used in MRI?

**SHORT ESSAY (Answer any Six)**

**6 × 5 = 30 Marks**

- 3 Explain T1 and T2 relaxation?
- 4 Explain Larmor equation and radio frequency waves?
- 5 Write about pulse resonance and proton resonance?
- 6 Explain about super conducting magnets
- 7 Differences between 2D and 3D picture?
- 8 Explain diamagnetism and ferromagnetism
- 9 Advantage of M.R.I
- 10 Write about free induction?

**SHORT ANSWERS (Answer any Ten)**

**10 × 3 = 30 Marks**

- 11 Write in brief about proton density.
- 12 Write a short note on resistive magnet
- 13 Contraindications of M.R.I
- 14 Enumerate various patient positioning in MRI
- 15 What is meant by flip angle?
- 16 What causes superconductivity?
- 17 What is a quench?
- 18 Enumerate different inversion recovery sequences
- 19 What is fast spin echo or turbo spin echo
- 20 What is T1 relaxation?
- 21 What are the differences between T2 and T2\*?
- 22 What is GRE and enumerate its uses.

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

**March 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**

**2 × 10 = 20 Marks**

- 1 What is MR spectroscopy? Write a brief note about it? What are the uses?
- 2 What is MR angiography? What are the uses? Write brief note on TOF?

**SHORT ESSAY (Answer any six)**

**6 × 5 = 30 Marks**

- 3 Write a brief note on T1 post contrast sequence?
- 4 What is mammography? Its uses?
- 5 What are the pulse sequences?
- 6 What are the indications for MRI brain?
- 7 Write uses of proton density imaging?
- 8 Write about arterial spin labelling?
- 9 Write about instrumentation used in mammography?
- 10 Write a note on gadolinium based contrast agents?

**SHORT ANSWERS (Answer any Ten)**

**10 × 3 = 30 Marks**

- 11 What is B value?
- 12 What is cerebral blood flow in MR perfusion studies?
- 13 What is ferromagnetism?
- 14 What is TR?
- 15 What are the types of MR perfusion studies?
- 16 What is T2 shine through?
- 17 Indications for MS spine imaging?
- 18 Write briefly about STIR sequence?
- 19 What is relaxation time?
- 20 What is flip angle?
- 21 How X rays are used in mammography?
- 22 What is para magnetism?



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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**

**2 X 10 = 20 Marks**

- 1 Write about mobile radiography? Mention the precautions during mobile X-Ray.
- 2 Explain about digital subtraction angiography?

**SHORT ESSAY (Answer any six)**

**10 X 5 = 50 Marks**

- 3 Explain about pre-operative choleodochiography?
- 4 Explain about procedure of retrograde urethrography?
- 5 Write about multiple radiography?
- 6 Write about procedure of percutaneous nephrostomy?
- 7 What is the use of high kilo voltage technique?
- 8 How to localize foreign body using radiography?
- 9 Describe about internal jugular venography?
- 10 Write a brief note on macro radiography?

**SHORT ANSWERS (Answer any Ten)**

**10 X 3 = 30 Marks**

- 11 What are the indications of choleodochiography?
- 12 Indications of lower limb venography?
- 13 What are the complications of percutaneous nephrostomy?
- 14 What is forensic radiology?
- 15 What is arteriography?
- 16 Contra indications of venography?
- 17 Uses of soft tissue radiography?
- 18 Write about superior venography?
- 19 Types of adverse contrast reaction during the special procedures?
- 20 What are the complications of MCU?
- 21 Write about pulmonary arteriography?
- 22 What is theatre radiography?

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