



SRI DEVARAJ URS ACADEMY OF HIGHER EDUCATION & RESEARCH

(A DEEMED TO BE UNIVERSITY)

B.Sc. Allied Health Sciences Third Year Semester-V

March 2025 Examination

B.Sc. Imaging Technology

Time: 2.30 Hrs.

[Max. Marks: 80]

Sub: Physics of Ultrasound with PCPNDT act

Q.P Code: K5390

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Explain Interaction of Ultrasound with Matter
2. Write a note on Types of Transducers in USG

SHORT ESSAY

6 X 5 = 30 Marks

3. Explain in detail about Color Doppler and its applications.
4. Explain Gate Lobing Artefacts.
5. Explain STRAIN Elastography.
6. Write about Patient Preparation in USG Abdomen.
7. Write about Care and Maintenance of Transducer.
8. Explain A-Modes of USG and its uses.

SHORT ANSWERS

10 X 3 = 30 Marks

9. What is TGC?
10. List the Natural and Artificial Piezoelectric elements.
11. What is Contrast Agents?
12. What is phase array Transducer?
13. What is Velocity of sound in USG?
14. List the Lower limb arteries.
15. List the indication of Ophthalmic Ultrasonography.
16. What is Diagnostic Procedure?
17. List the complication of PTBD
18. What is Temporal Resolution?

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B.Sc. Imaging Technology

Time: 2.30 Hrs.

[Max. Marks: 80]

Physics of CT & Imaging Technique

Q.P Code: K5400

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Write note on Indication, Contraindication, Patient Preparation and Position of CT Abdomen.
2. Write a Note on factors affecting CT Image quality.

SHORT ESSAY

6 X 5 = 30 Marks

3. Explain imaging of CT brain and its pathologies.
4. Explain the Safety Consideration before injecting Contrast media.
5. Explain Image Reconstruction Process in CT.
6. Explain the role of Lead apron and thyroid shield in CT.
7. Explain Patient Based Artefacts.
8. Explain about four Generations CT scanner.

SHORT ANSWERS

10 X 3 = 30 Marks

9. What is Window Width?
10. When and Who invented CT?
11. How much amount of Contrast and Saline has been given in CT Neck
12. What is Pressure Injector?
13. What is CT number and its unit?
14. What is Post Processing in CT?
15. List the Limitation of CT.
16. Why High KVP is used in CT?
17. What is Image Data?
18. Explain about CT window width and window level.

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B.Sc. Imaging Technology

Time: 2.30 Hrs.

[Max. Marks: 80]

Mammography and Nuclear Medicine

Q.P Code: K5410

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Write a note on Digital Radiography.
2. Write a Note on Positron emission tomography.

SHORT ESSAY

6 X 5 = 30 Marks

3. Explain Dual Head Gamma Camera
4. Explain About PACS.
5. Explain Radiation Protection techniques in Digital Radiography.
6. Write the difference between Computer Radiography and Digital Radiography.
7. Explain Working single photon emission computed tomography.
8. Explain Direct Detectors in Digital Radiography.

SHORT ANSWERS

10 X 3 = 30 Marks

9. What is Mini PACS?
10. What is Long Term Storage System?
11. What is Wide Area Network?
12. What are Protons?
13. What is Hospital Information System (HIS)?
14. What is Parallel Hole Collimator?
15. What is Protective Layer in CR
16. Write three advantages of CR
17. Write the Principle of Cyclotron.
18. What is Spatial Resolution?

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