Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Imaging Technology Examination – 15-May-2025

Time: Three Hours **Max. Marks: 60 Marks**

DIAGNOSTIC IMAGING TECHNIQUE (RS3)
Q.P. CODE: 2911

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Explain Gamma camera in detail wit diagram.
2. Explain the basic principle of MRI in detail.
3. Define CT number. How will you calculate CT number in computer tomography?

SHORT ESSAYS (Answer any Five) **5 x 5 = 25 Marks**

4. Multislice CT and its pitch.
5. MRI protocol of brain for the patient with the history of seizures.
6. Different types of magnets used in MRI.
7. PET.
8. USG display modes.
9. CT artifacts.
10. Precautions while handling radionuclides.

SHORT ANSWERS (Answer any Five) **5 x 3 = 15 Marks**

11. Doppler shift.
12. MR Spectroscopy.
13. Specific activity.
14. Ultrasound transducers.
15. Advantage and disadvantage of PACS.
16. Window width and window level in CT.
17. STIR and FLAIR.

Rajiv Gandhi University of Health Sciences, Karnataka

Third Year B.Sc. Medical Imaging Technology Degree Examination – 15-May-2025

Time: Three Hours **Max. Marks: 100 Marks**

Diagnostic Imaging Techniques and Modalities (RS-4)

Q.P. CODE: 3293

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Discuss multislice computed tomography
2. What are contrast media? How do you classify them mention the adverse effects?
   OR
   Discuss the principles of nuclear medicine imaging and instrumentation

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. MRI angiography
4. Ultra sound artifacts
5. Types of transducers probe and its application
   OR
   Gradient coils
6. Safety dose and radiation dose in CT scan
7. Quality check and maintenance in CT
8. 2D, 3D ultrasound
9. SPECT
10. USG guided procedures – patient preparation
    OR
    Plezoelectric crystal
11. Power doppler
12. Precautions while handling radionuclide

SHORT ANSWER **10 x 3 = 30 Marks**

13. Radio frequency transmitter (MRI)
14. **Ideal features of radiopharmaceuticals**
15. **Perfusion in MRI scan**
16. Bowel preparation for abdominal ultrasound
17. CT console
18. Photomultipliers
19. Motion artifact
20. Mechanical transducers
21. Free induction decay
22. Larmor frequency

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Imaging Technology Examination – 20-May-2025

Time: 3 Hours **Max. Marks: 30 Marks**

RADIOGRAPHIC TECHNIQUES – I (RS3)
Q.P. Code: 2912

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary

(Note: Both QP Codes 2912 and 2913 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Explain routine and special radiographic projections used for abdomen.
2. Radiographic projections for Sternum

SHORT ESSAYS (Answer any Two) **2 x 5 = 10 Marks**

3. Submento vertical view
4. Reverse Towne's view
5. Water's view

SHORT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

6. Ball Catcher's view
7. Scaphoid view
8. Intra oral radiography
9. Tele Roentgenogram
10. Lead shield
11. Magnification radiography

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Imaging Technology Examination – 20-May-2025

Time: 3 Hours **Max. Marks: 30 Marks**

RADIOGRAPHIC TECHNIQUES – II (RS3)
Q.P. Code: 2913

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary.

(Note: Both QP Codes 2912 and 2913 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Describe in detail the indications and procedure of CT Aortogram.
2. Hysterosalpingogram.

SHORT ESSAYS (Answer any Two) **2 x 5 = 10 Marks**

3. Responsibility of radiographer during radiological procedure.
4. Ascending Urethrography in males.
5. Contrast media and adverse reactions.

SHORT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

6. Digital subtraction angiography.
7. Hypotonic duodenography.
8. Lumbar myelogram.
9. Barium sulphate.
10. T-tube cholangiogram.
11. Radio-isotope scanning in Hepato-biliary system.

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Rajiv Gandhi University of Health Sciences, Karnataka

Third Year B.Sc. Medical Imaging Technology Degree Examination – 20-May-2025

Time: Three Hours **Max. Marks: 100 Marks**

Radiographic Special Procedures and Patient care (RS-4)

Q.P. CODE: 3294

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Classification of contrast media in detail
2. Describe in detail the emergency drugs and emergency equipment's radiology department

   OR

   Describe Lumbar Myelography under the following headings:
   a) Indication and contraindication
   b) Preparation of the patient
   c) Procedure including recommended views
   d) After care of the patient

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Intravenous urogram (IVU)
4. Responsibilities of a nursing aid in the department of radiology.
5. CT Myelogram

   OR

   Adverse effects of contrast media explain mild, moderate and severe reactions
6. Explain Barium Swallow with neat labelled anatomy diagram of upper GI tract
7. Micturating cystourethrogram (MCU)
8. Describe in detail about retrograde urography (RGU)
9. Barium Meal Follow Through (BMFT)
10. Hystero Salpingo Gram (HSG)

    OR

    Fallopian Tubes Recanalization (FTR)
11. Sialography
12. Catheters and guide wires

SHORT ANSWER **10 x 3 = 30 Marks**

13. Informed consent
14. Radiation protective devices
15. Dacryocystography
16. Negative contrast media
17. After care of barium studies
18. Responsibilities of CT medical imaging technologist
19. Infection control in radiology department
20. ALARA / ALARAP
21. Gastrografin
22. Immobilization devices used in radiology.

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Imaging Technology Examination – 27-Oct-2025

Time: Three Hours **Max. Marks: 60 Marks**

DIAGNOSTIC IMAGING TECHNIQUE (RS3)
Q.P. CODE: 2911

Your answers should be specific to the questions asked
Draw neat, labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Write a note on principle of CT scan machine. Explain briefly about MDCT.
2. Describe in detail post processing techniques in CT.
3. Mention different components of Ultrasound machine and its functioning. What are sonic waves? Write a note on properties of ultrasound waves.

SHORT ESSAYS (Answer any Five) **5 x 5 = 25 Marks**

4. MR angiography
5. Digital subtraction angiography
6. Quality assurance tests in CT scan
7. Write in detail any two pulse sequences used in MRI.
8. Explain basic principle of Doppler scan
9. CT artefacts
10. Isotope transport

SHORT ANSWERS (Answer any Five) **5 x 3 = 15 Marks**

11. MR contrast agents
12. Larmour frequency
13. CT number
14. Acoustic coupling agent
15. Dose reduction techniques in CT
16. Piezoelectric crystal
17. Artefacts in ultrasound

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. (M.I.T) Degree Examination – 27-Oct-2025

Time: Three Hours **Max. Marks: 100 Marks**

Diagnostic Imaging Techniques and Modalities (RS-4)

Q.P. CODE: 3293

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

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. MRI basic principles.
2. Explain the production of radionuclides.
   OR
   Write about the CECT abdominal protocols for hepatocellular carcinoma.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. CT contrast media administration techniques.
4. Discuss and differentiate second and third generation of CT.
5. STIR MRI sequence.
   OR
   Artefacts in USG.
6. Discuss the CT artefacts.
7. Cardiac MRI.
8. CT guided procedures.
9. Discuss the piezoelectric effect with diagrams.
10. Explain flow phenomena.
    OR
    Flow phenomena compensation.
11. Write about the patient preparations for MRI scan.
12. PET scan.

SHORT ANSWER **10 x 3 = 30 Marks**

13. TOF MRA.
14. Matrix.
15. Window width and window level.
16. Half life.
17. Anode angle.
18. Types of magnets.
19. RF transmitter and RF receiver.
20. Gradient coil.
21. SWI sequence.
22. Turbo spin echo.

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Imaging Technology Examination – 29-Oct-2025

Time: 3 Hours **Max. Marks: 30 Marks**

RADIOGRAPHIC TECHNIQUES – I (RS3)
Q.P. Code: 2912

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

(Note: Both QP Codes 2912 and 2913 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Explain in detail basic and supplementary projections for knee joint
2. Describe the routine and supplementary views of cervical spine

SHORT ESSAYS (Answer any Two) **2 x 5 = 10 Marks**

3. Routine radiographs of chest
4. practical methods to reduce radiation dose to the patient
5. Explain west point view

SHORT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

6. Shadow shield
7. kVp and mAs
8. View for Intercondylar fossa
9. Grid frame rate
10. ALARA
11. Bucky slot device

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Imaging Technology Examination – 29-Oct-2025

Time: 3 Hours **Max. Marks: 30 Marks**

RADIOGRAPHIC TECHNIQUES – II (RS3)
Q.P. Code: 2913

Your answers should be specific to the questions asked.
Draw neat, labeled diagrams wherever necessary
(Note: Both QP Codes 2912 and 2913 are to be answered within total duration of 3 hours)

LONG ESSAYS (Answer any One) **1 x 10 = 10 Marks**

1. Describe myelography under the following headings:
    a) Indication and contraindication
    b) Preparation of the patient
    c) Procedure
    d) Trolley settings
    e) After care of the patient

2. Describe pedal lymphography under the following headings:
    a) Indication and contraindication
    b) Preparation of the patient
    c) Contrast media
    d) Procedure including recommended views
    e) After care of the patient

SHORT ESSAYS (Answer any Two) **2 x 5 = 10 Marks**

3. Angiography
4. Intra venous urogram
5. PTBD

SHORT ANSWERS (Answer any Five) **5 x 2 = 10 Marks**

6. Contrast media classification
7. Pelvimetry
8. Stereography
9. Percutaneous lung biopsy
10. Contrast media used in MRI
11. Contrast administration techniques

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Rajiv Gandhi University of Health Sciences, Karnataka

Third Year B.Sc. Medical Imaging Technology Degree Examination – 29-Oct-2025

Time: Three Hours **Max. Marks: 100 Marks**

Radiographic Special Procedures and Patient care (RS-4)

Q.P. CODE: 3294

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Discuss in detail about Barium Meal Follow Through
2. What is contrast media? What are the various types of contrast medium and its management in emergency basis?

   OR

   Write brief note on indications, contraindications and complications of cerebral angiography

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Micturating Cystourethrogram (MCU)
4. Enteroclysis
5. Peripheral venography

   OR

   Barium meal double contrast
6. Intravenous Pyelogram (IVP)
7. ERCP procedure
8. Infection control in radiology
9. Classification of catheters and it's uses
10. Explain Barium Swallow Procedure

    OR

    Explain importance of informed consent before any radiographic procedure
11. Contrast Media Toxicity
12. Ascending Urethrogram (ASU)

SHORT ANSWER **10 x 3 = 30 Marks**

13. Bronchography
14. Informed consent.
15. **GIT contrast media**
16. Barium enema
17. ALARA principle
18. Hysterosalpingogram (HSG)
19. 10 day and 28 day rules
20. After care for Barium Studies
21. Personal protective equipment
22. Direct needle puncture.

Rajiv Gandhi University of Health Sciences, Karnataka

RGUHS THEORY EXAMINATION OCTOBER-2025

NODAL CENTRE:CAUVERY INSTITUTE OF HEALTH SCIENCES, MYSORE

Date: 29-10-2025 **Session: Morning**

CORRECTIONS

Subject: Radiographic special procedures and Patient care

QP Code:3294

Q. No	QUESTION Appeared As	QUESTION CORRECTED As	REASON FOR CORRECTIONS
15	Perpheral Venography	GIT contrast media	Question Repeated