

**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

[AHS 0122]

**JANUARY 2022  
(OCTOBER 2021 EXAM SESSION)**

**Sub. Code: 2513**

**M.Sc. RADIOGRAPHY AND IMAGING TECHNOLOGY  
SECOND YEAR (From 2019-2020 onwards)  
PAPER III – NEWER AND IMAGING MODALITIES  
*Q.P. Code : 282513***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate notes on:**

**(2 x 20 = 40)**

1. Elaborate on PET CT.
2. Elaborate on functional MRI.

**II. Write Short Notes on:**

**(10x6 = 60)**

1. USG contrast imaging.
2. Fibro scan.
3. SWI Imaging.
4. Stereostatic biopsy.
5. MRI cardiac imaging.
6. CT cisternography.
7. CT perfusion imaging.
8. Triple phase imaging for liver lesions.
9. Renal isotope imaging.
10. Mammography.

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**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

[AHS 1022]

OCTOBER 2022

Sub. Code: 2513

**M.Sc. RADIOGRAPHY AND IMAGING TECHNOLOGY  
SECOND YEAR (From 2019-2020 & 2020-2021 onwards)  
PAPER III – NEWER AND IMAGING MODALITIES**

*Q.P. Code : 282513*

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate notes on:**

**(2 x 20 = 40)**

1. Digital subtraction angiography.
2. CT coronary angiography.

**II. Write Short Notes on:**

**(10x6 = 60)**

1. Elastography.
2. Newer MRI contrast.
3. MRI perfusion imaging.
4. Tissue harmonic imaging.
5. Dual energy CT.
6. Digital tomo synthesis.
7. X-Ray contrast mammography.
8. Fusion imaging.
9. High intensity focused ultrasound.
10. Parathyroid imaging.

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**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[AHS 1023]**

**OCTOBER 2023**

**Sub. Code: 2513**

**M.Sc. RADIOGRAPHY AND IMAGING TECHNOLOGY  
SECOND YEAR (From 2020-2021 onwards)  
PAPER III – NEWER IMAGING MODALITIES**

*Q. P. Code: 282513*

**Time: Three hours**

**Maximum: 100 Marks**

**Answer ALL Questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Cardiac MRI.
2. Digital subtraction angiography.

**II. Write notes on:**

**(10 x 6 = 60)**

1. PET CT.
2. Tissue harmonic imaging.
3. MRCP.
4. Fluoroscopy guided interventions.
5. Diffusion tensor imaging.
6. MR Neurography.
7. Portable CT.
8. CT arthrogram.
9. MR mammogram.
10. Fibroscan.

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**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[AHS 0524]**

**MAY 2024**

**Sub. Code: 2513**

**M.Sc. RADIOLOGY AND IMAGING TECHNOLOGY  
SECOND YEAR (From 2020-2021 onwards)  
PAPER III – NEWER AND IMAGING MODALITIES**

*Q. P. Code: 282513*

**Time: Three hours**

**Maximum: 100 Marks**

**Answer ALL Questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe in detail about the MRI Hepatic protocol. Elaborate about technique and clinical importance.
2. Describe in detail about the techniques of cardiac CT, its indications and advantages.

**II. Write notes on:**

**(10 x 6 = 60)**

1. PACS.
2. MR Spectroscopy.
3. Kspace.
4. Tractography.
5. What is CBCT and how does it work?
6. Difference between CT guide biopsy and ultra sound guide biopsy.
7. MDCT and its advantages.
8. Interaction ultrasound with tissues and its properties.
9. Gamma camera.
10. Renal artery stenosis-Doppler imaging.

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**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[AHS 1024]**

**OCTOBER 2024**

**Sub. Code: 2513**

**M.Sc. RADIOGRAPHY AND IMAGING TECHNOLOGY  
SECOND YEAR (From 2020-2021 onwards)  
PAPER III – NEWER IMAGING MODALITIES**

***Q.P. Code: 282513***

**Time: Three hours**

**Maximum: 100 Marks**

**Answer ALL Questions**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Functional MRI.
2. CT coronary angiography.

**II. Write notes on:**

**(10 x 6 = 60)**

1. CT fluoroscopy.
2. High intensity focused ultrasound.
3. CT enteroclysis.
4. CT guided biopsy.
5. SWI imaging.
6. Ultrasound contrast imaging.
7. 3D / 4D USG imaging.
8. PACS.
9. X-ray contrast mammography.
10. Dynamic MRI for pituitary.

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**THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY**

**[AHS 1025]**

**OCTOBER 2025**

**Sub. Code: 2513**

**M.Sc. RADIOGRAPHY AND IMAGING TECHNOLOGY  
SECOND YEAR (From 2020-2021 onwards)  
PAPER III – NEWER IMAGING MODALITIES**

***Q.P. Code: 282513***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Elaborate on:**

**(2 x 20 = 40)**

1. Describe in detail about the MRI Stroke protocol. Elaborate about technique and clinical importance.
2. i) Elaborate CT TAVI protocol. ii) CT artifacts and their correction.

**II. Write Short Notes on:**

**(10x6 = 60)**

1. Types of MRI magnets, their advantages and limitations.
2. USG display modes A, B and M.
3. CT aortogram in detail.
4. HIFU.
5. Explain the principle and application of STIR, SPIR and FLAIR sequence.
6. CT post processing techniques MPR, MIP, MIN IP and VRT.
7. Dual energy CT.
8. Ultrasound artifacts.
9. CT virtual colonoscopy.
10. TOF & Phase Contrast techniques in MRI.

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