[LS 123] NOVEMBER 2020 **Sub. Code: 3019**

(OCTOBER 2020 SESSION)

M.D. DEGREE EXAMINATION

BRANCH XXIV – NUCLEAR MEDICINE

PAPER IV – RECENT ADVANCES IN NUCLEAR MEDICINE IMAGING AND RADIONUCLIDE THERAPY

Q.P. Code: 203019

Time : Three Hours **Maximum : 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Nuclear medicine in COVID-19
2. Response evaluation in immunotherapy.

II. Write notes on: **(10 x 7 = 70)**

1. Imaging in neuroinflammation.
2. Ga-68 labelled newer radiopharmaceuticals.
3. Artificial intelligence
4. Targeted alpha therapy
5. Imaging in large vessel vasculitis
6. PET guided biopsy
7. Myeloablative therapy in neuroblastoma
8. Principles of PET-RT planning
9. Imaging in pancreatic tumours
10. Digital PETCT

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[MD 0721] JULY 2021 **Sub. Code: 3019**

(MAY 2021 SESSION)

M.D. DEGREE EXAMINATION

BRANCH XXIV – NUCLEAR MEDICINE

PAPER IV – RECENT ADVANCES IN NUCLEAR MEDICINE IMAGING AND RADIONUCLIDE THERAPY

Q.P. Code: 203019

Time : Three Hours **Maximum : 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Current recommendations for PET imaging in oncology.

2. Role of radionuclide therapy in papillary thyroid carcinoma.

II. Write notes on: **(10 x 7 = 70)**

1. Multimodality imaging in the evaluation of coronary artery disease.
2. Nuclear medicine in radiotherapy planning.
3. Immunotherapy.
4. Future role of PET-MRI fusion imaging in neurology.
5. New radiopharmaceuticals for PET imaging.
6. New techniques of image reconstruction.
7. Radiomics.
8. Quantitative parameters in nuclear medicine image processing.
9. Alpha emitters used in radionuclide therapy.
10. New developments in molecular imaging.

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

[MD 0522] **MAY 2022** **Sub. Code: 3019**

M.D. DEGREE EXAMINATION

BRANCH XXIV – NUCLEAR MEDICINE

PAPER IV – RECENT ADVANCES IN NUCLEAR MEDICINE IMAGING AND RADIONUCLIDE THERAPY

Q.P. Code: 203019

Time : Three Hours **Maximum : 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Enumerate the role of artificial intelligence in nuclear imaging. What are the possible implications of texture analysis in nuclear oncological Imaging?

2. Scintigraphy for neuroendocrine Tumours.

II. Write notes on: **(10 x 7 = 70)**

1. a) Pocket Dosimetry.
   b) Standardized uptake value.

2. a) Partial volume effect.
   b) Compare various PET crystals.

3. a) Methods to detect patient motion.
   b) What id 3D OSEM?

4. a) Factors affecting resolution in PET image.
   b) Bexar and its use.
   c) Breathing artifacts inhybrid imaging.

5. a) Deau ville score.
   b) Protocols for cardiac viabilitystudies.

6. a) Multimodality imaging methods in evaluation of dementia.
   b) Mutation studies in Thyroid cancer.

7. a) Paraneoplastic syndrome.
   b) Maximum intensity projection.

8. a) What is 18F? Sodium fluoride used for Imaging? Compare with MDP.
   b) Inhalation radiopharmaceutical.

9. a) Brown fat.
   b) Indications of Tyrosine kinase inhibitors in Ca.Thyroid.

10. a) Compare breast specific imaging vs positron emission mammography.
    b) Scintimammography vs sentinel node imaging.

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

[MD 0723] **JULY 2023** **Sub. Code: 3019**

(MAY 2023 EXAM SESSION)

M.D. DEGREE EXAMINATION

BRANCH XXIV – NUCLEAR MEDICINE

PAPER IV – RECENT ADVANCES IN NUCLEAR MEDICINE IMAGING AND RADIONUCLIDE THERAPY

Q.P. Code: 203019

Time : Three Hours **Maximum : 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Discuss in detail about Amyloid PET.
2. T Cell PET imaging.

II. Write notes on: **(10 x 7 = 70)**

1. Gallium 68 based newer tracers.
2. Tracer kinetic analysis in oncology.
3. Musculoskeletal infection imaging.
4. VISION Trial.
5. Total body PET.
6. MET PET, FET PET.
7. FAPI in lymphoma, and its therapeutic implications.
8. Imaging in Mesenchymal tumors.
9. Advances in parathyroid imaging.
10. Artificial intelligence and its clinical implications.

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