

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

[LR 1220]

**DECEMBER 2020
(AUGUST 2020 EXAM SESSION)**

Sub. Code: 2121

**BACHELOR IN NUCLEAR MEDICINE TECHNOLOGY
THIRD YEAR – (Regulation from 2010-2011)
PAPER I – RECENT ADVANCE IN NUCLEAR MEDICINE TECHNIQUES**

Q.P. Code: 802121

Time: Three Hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(3 x 10 = 30)

1. A tertiary care institution wishes to establish a full-fledged high dose Radioiodine therapy facility in its premises. Describe in detail, its planning, regulatory obligations involved and patient preparation protocols for this facility.
2. Describe about the technology and applications of the PET-MRI.
3. A 26 years old lady has complaints of body pains and swelling in her Thyroid region of her neck. Describe in detail about imaging of her Parathyroid glands.

II. Write notes on:

(8 x 5 = 40)

1. Three phase Bone Scan.
2. Applications of Radioactive technetium.
3. Radioactive waste disposal technique.
4. Intraoperative Gamma Probe.
5. PET Scintillation Detectors.
6. First Pass Radionuclide imaging procedures.
7. Personal monitoring devices.
8. Protein binding Radiopharmaceuticals.

III. Short answers on:

(10 x 3 = 30)

1. Agents in Skeletal Imaging.
2. Gastrointestinal Scintigraphy in Children: Radiopharmaceutical and technique.
3. Weekly quality check parameters for SPECT-CT.
4. Agents used in Bone Scintigraphy.
5. Delay tank design for high dose Radionuclide therapy wards.
6. Multigated Acquisition.
7. Uses of ¹³¹Iodine.
8. Shielding agents for Beta and Alpha radiation.
9. ALARA Principle.
10. Imaging agents for Cardiac function.
