

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

[AHS 0222]

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

Sub. Code: 2301

**M.Sc. NUCLEAR MEDICINE TECHNOLOGY
FIRST YEAR**

(Candidates admitted from 2019-2020 onwards – Paper I)

(Candidates admitted from 2020-2021 onwards – Paper II)

PAPER I & II – ANATOMY, PHYSIOLOGY AND BIOCHEMISTRY

Q.P. Code : 282301

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on: (2 x 20 = 40)

1. Describe the CSF circulation under following headings [4+4+4+4+4]
 - a) Formation
 - b) Circulation
 - c) Absorption
 - d) Composition of CSF
 - e) Applied aspect
2. Define the Cardiac cycle. What are the events in a cardiac cycle? Describe the ventricular events in detail. Add a note on heart sounds. [5+5+5+5]

II. Write Short Notes on: (10x6 = 60)

1. Blood supply of Pancreas.
2. Describe the different types of neuroglia and mention function of each.
3. Ligaments of shoulder joint.
4. Pituitary gland with applied aspects.
5. Explain the biochemical significance of urea cycle.
6. Deltoid muscle-attachments and applied anatomy
7. Classify fractures and describe stages of healing.
8. Describe the synthesis and function of Thyroid gland.
9. Broncho pulmonary segments.
10. List the various constituents of blood. What are the functions of blood?

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

[AHS 1022]

OCTOBER 2022

Sub. Code: 2301

M.Sc. NUCLEAR MEDICINE TECHNOLOGY

FIRST YEAR

(Candidates admitted from 2019-2020 onwards – Paper I)

(Candidates admitted from 2020-2021 onwards – Paper II)

PAPER I & II – ANATOMY, PHYSIOLOGY & BIOCHEMISTRY

Q.P. Code : 282301

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Describe the external features of the heart. Add a note on the conducting system of the heart and coronary circulation.
2. Describe the structure, types, metabolism, and functions of lipoproteins.

II. Write Short Notes on:

(10x6 = 60)

1. Functions of sympathetic nervous system.
2. Cross Section of Spinal cord.
3. With the help of a diagram, explain different lung volumes.
4. Write briefly on plasma proteins and their functions.
5. Components and function of juxta-glomerular apparatus.
6. Describe the parts and ligaments of Uterus.
7. Formation and branches of Brachial plexus
8. Describe the Extra ocular muscles and their nerve supply.
9. List the waves seen in a normal ECG and the reason why it is produced.
10. List the parts and blood supply of Pancreas.

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

[AHS 1023]

OCTOBER 2023

Sub. Code: 2301

**M.Sc. NUCLEAR MEDICINE TECHNOLOGY
FIRST YEAR (From 2020-2021 onwards)
PAPER II – ANATOMY, PHYSIOLOGY & BIOCHEMISTRY**

Q.P. Code: 282301

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Describe the parts of Excretory System. Write in detail about the Glomerular filtration process. Add a note on Juxta – glomerular apparatus.
2. What are carbohydrates? How are they classified? Explain different types of isomerism in glucose.

II. Write Short Notes on:

(10x6 = 60)

1. Stages of Erythropoiesis.
2. Functional areas in Supero-lateral surface of brain.
3. Secondary structures of protein.
4. Functions of Thyroid gland.
5. Supports of Uterus.
6. Mechanism and action of endocrine hormones.
7. Different classifications of amino acids with colour reaction for aromatic amino acids.
8. Lymphatic drainage of the stomach.
9. Active membrane transport with illustration.
10. Coronary circulation.

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

[AHS 1024]

OCTOBER 2024

Sub. Code: 2301

**M.Sc. NUCLEAR MEDICINE TECHNOLOGY
FIRST YEAR (From 2020-2021 onwards)
PAPER II – ANATOMY, PHYSIOLOGY & BIOCHEMISTRY**

Q.P. Code: 282301

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Describe the Blood supply of Heart in detail under the following headings:
 - a. Arterial supply.
 - b. Venous drainage.
 - c. Coronary dominance.
 - d. Applied aspect.

2. Write in detail about Anemia under the following headings:
 - a. Definition.
 - b. Normal value of Hemoglobin and Red blood cells.
 - c. Classification of Anemia.
 - d. Blood indices.
 - e. Add a note on Iron deficiency anemia.

II. Write Short Notes on:

(10x6 = 60)

1. Monoclonal antibodies.
2. Bronchopulmonary segments.
3. Menstrual cycle.
4. Cell mediated immune response.
5. Thyroid gland.
6. T cells.
7. Vitamin D.
8. Visual pathway.
9. Factors influencing Calcium absorption.
10. Biological oxidation.

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

[AHS 1025]

OCTOBER 2025

Sub. Code: 2301

**M.Sc. NUCLEAR MEDICINE TECHNOLOGY
FIRST YEAR (From 2020-2021 onwards)
PAPER II – ANATOMY, PHYSIOLOGY & BIOCHEMISTRY**

Q.P. Code: 282301

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Describe the parts of Female genital System. Write in detail about Uterus under the following headings:
A) Location B) Position C) External features D) Relations
E) Supports F) Applied anatomy
2. Classify Vitamins. Write in detail about the functions and deficiency disorders of Fat soluble vitamins.

II. Write Short Notes on:

(10x6 = 60)

1. Differences between Systemic and Pulmonary circulation.
2. Gross anatomy of Ureter.
3. External features and Relations of Left Lung.
4. Functions of Cerebellum.
5. Glomerular Filtration Rate.
6. Structure and functions of Haemoglobin.
7. External features of Spinal cord.
8. Pathophysiology of Diabetes Mellitus.
9. Humoral immune response.
10. Hydrocele.
