

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

[AHS 0222]

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

Sub. Code: 4013

M.Sc. MEDICAL PHYSICS

FIRST YEAR

(Candidates admitted from 2010-2011 onwards – Paper III)

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

PAPER III & IV – ANATOMY, PHYSIOLOGY AND PATHOLOGY

Q.P. Code : 284013

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate notes on:

(2 x 20 = 40)

1. Describe about lung and its function. Write in detail about the physiology of respiration.
2. Immediate and late effects of whole-body exposure to Ionizing radiation.

II. Write Short Notes on:

(10x6 = 60)

1. Functions of liver.
2. Acute and chronic inflammation.
3. Physiology of smell sensation.
4. Basics of ABO blood grouping and typing.
5. Structure of bone and cartilage.
6. Kidney and its functions.
7. Surface anatomy of the abdomen and name the organs seen in its quadrants.
8. Wound healing.
9. Define dysplasia, metaplasia and Neoplasia with examples.
10. Structure and actions of insulin.

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

[AHS 1022]

OCTOBER 2022

Sub. Code: 4013

M.Sc. MEDICAL PHYSICS

FIRST YEAR

(Candidates admitted from 2010-2011 onwards – Paper – III)

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

PAPER III & IV- ANATOMY, PHYSIOLOGY AND PATHOLOGY

Q.P. Code : 284013

Time: Three Hours

Maximum: 100 Marks

Answer ALL Questions

I. Elaborate notes on:

(2x20=40)

1. Describe in detail the anatomy and physiology of excretory system.
2. Explain in detail about classification of Tumors, mode of spread of Tumors. Add a note on Carcinogens

II. Write Short Notes on:

(10x6=60)

1. Structure and functions of a cell.
2. Actions of Insulin.
3. Functions of Autonomic Nervous system.
4. Chemical mediators of Inflammation.
5. Properties of Heart muscle.
6. Necrosis and its types.
7. Oxygen Transport.
8. Surface markers of thorax and abdomen.
9. Write a note on Radiation injury.
10. Name the Bones of upper limb and write about its ossification centre.

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

[AHS 1023]

OCTOBER 2023

Sub. Code: 4013

**M.Sc. MEDICAL PHYSICS
FIRST YEAR (From 2020-2021 onwards)
PAPER IV - ANATOMY, PHYSIOLOGY AND PATHOLOGY**

Q.P. Code: 284013

Time: Three Hours

Maximum: 100 Marks

Answer ALL Questions

I. Elaborate notes on:

(2x20=40)

1. With a neat diagram, explain in detail the structure and functions of Heart. Write a note on properties of heart muscle and cardiac dynamics.
2. Draw a diagram of cell and explain in detail the mechanism of cell injury and Healing.

II. Write Short Notes on:

(10x6=60)

1. Anatomy of Eye.
2. Formation and Excretion of urine.
3. Systemic effects of Neoplasia.
4. Surface Anatomy of abdomen and write a note on structures in different quadrant.
5. Coagulation of Blood.
6. Chromosomal Abnormalities.
7. Functions of Pancreas and adrenal gland.
8. Oxygen transport.
9. Connective tissues.
10. Imaging modalities in Radiotherapy.

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

[AHS 1024]

OCTOBER 2024

Sub. Code: 4013

**M.Sc. MEDICAL PHYSICS
FIRST YEAR (From 2020-2021 onwards)
PAPER IV- ANATOMY, PHYSIOLOGY AND PATHOLOGY**

Q.P. Code: 284013

Time: Three Hours

Maximum: 100 Marks

Answer ALL Questions

I. Elaborate notes on:

(2x20=40)

1. Explain in detail the composition of blood. Write a note on the Coagulation Mechanism.
2. What is meant by Radiation Injury? Explain in detail the immediate and late effects of total body Radiation Injury.

II. Write Short Notes on:

(10x6=60)

1. Digestion and assimilation of Carbohydrates.
2. Write a note on growth and spread of Tumors.
3. Wound healing and its complication.
4. Functions of Thyroid gland.
5. Mechanism of Hearing.
6. Anatomy of spinal cord.
7. Functions of small intestine.
8. Microscopic structure of cartilage and bone.
9. Chromosomal abnormalities.
10. Regulation of Blood Pressure.

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

[AHS 1025]

OCTOBER 2025

Sub. Code: 4013

**M.Sc. MEDICAL PHYSICS
FIRST YEAR (Candidates admitted from 2020-2021 Onwards)
PAPER IV - ANATOMY, PHYSIOLOGY AND PATHOLOGY**

Q.P. Code: 284013

Time: Three Hours

Maximum: 100 Marks

Answer ALL Questions

I. Elaborate notes on:

(2x20=40)

1. Describe in detail about the anatomy and physiology of Brain.
2. Describe in detail about the pathophysiology of Anemia.

II. Write Short Notes on:

(10x6=60)

1. Cellular organelles and its function.
2. Types of bones and ossification.
3. Diaphragm.
4. Neoplasms.
5. Physiology of Hearing.
6. Types of Necrosis.
7. Digestion of Fats and Proteins.
8. Structure of Muscular tissue.
9. Electro Cardio Gram.
10. Effects of Radiation injury.
