

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

[BOT 1123]

**NOVEMBER 2023
(AUGUST 2023 EXAM SESSION)**

Sub. Code: 6193

**BACHELOR OF OCCUPATIONAL THERAPY DEGREE COURSE
FIRST YEAR - (Regulations for the candidates admitted from 2022-2023 onwards)
PAPER III – PHYSIOLOGY**

Q.P. Code: 786193

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Explain in detail the synthesis, secretion, transport, and functions of insulin hormone. Add a note on diabetes mellitus.
2. Trace the visual pathway and describe the effect of lesions at various levels of the pathway with a neat diagram. .

II. Write notes on:

(8 x 5 = 40)

1. Erythroblastosis fetalis.
2. Sliding filament theory of muscle contraction.
3. Uterine ovarian changes in menstrual cycle.
4. Peripheral Chemoreceptors for regulation of Respiration.
5. Neuronal action potential.
6. Reabsorption in the Proximal Convoluted Tubule.
7. Hormones regulating glucose homeostasis.
8. Defecation reflex.

III. Short answers on:

(10 x 2 = 20)

1. Learning and memory.
2. Rigor Mortis.
3. Types of Lymphocytes and their functions.
4. Buffer systems.
5. Prolactin.
6. Functions of Cerebrospinal fluid (CSF).
7. Peptic Ulcer.
8. Emulsification of fat.
9. Lung capacities.
10. Referred pain.

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

[BOT 0824]

AUGUST 2024

Sub. Code: 6193

**BACHELOR OF OCCUPATIONAL THERAPY DEGREE EXAMINATION
FIRST YEAR - (Regulations for the candidates admitted from 2022-2023 onwards)
PAPER III – PHYSIOLOGY**

Q.P. Code: 786193

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Describe the conduction system of heart with a diagram. Explain the atrial and ventricular events of cardiac cycle.
2. Draw and explain the structure of a sarcomere. Describe the molecular basis of contraction. Add a note on rigor mortis.

II. Write notes on:

(8 x 5 = 40)

1. Define haemostasis and write about intrinsic pathway of coagulation.
2. Micturition reflex.
3. Clinical features of Hypothyroidism and Hyperthyroidism.
4. Oxygen Dissociation Curve.
5. Mechanism of Gastric acid secretion.
6. Ascending Tracts.
7. Active and Passive transport.
8. Functions of Hypothalamus.

III. Short answers on:

(10 x 2 = 20)

1. Refractive errors of the eye.
2. Glomerular Filtration Rate (GFR).
3. Types of neurons and neuroglia.
4. Shock and its types.
5. Functions of Placenta.
6. Functions of neutrophils and eosinophils.
7. Electrocardiogram (ECG).
8. Renin-angiotensin system.
9. Neurotransmitters.
10. Ventilation Perfusion (V/Q) ratio in the lungs.

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

[BOT 0825]

AUGUST 2025

Sub. Code: 6193

**BACHELOR OF OCCUPATIONAL THERAPY DEGREE COURSE
FIRST YEAR - (Candidates admitted from the academic year 2022-2023 onwards)
PAPER III – PHYSIOLOGY**

Q.P. Code: 786193

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Classify different types of transport mechanisms across the cell membrane. Write in detail about each of them.
2. Describe the composition of gastric juice. Explain in detail different phases of gastric secretion. Discuss the regulation of gastric secretion.

II. Write notes on:

(8 x 5 = 40)

1. Genesis of the Resting Membrane Potential.
2. Describe the stages of erythropoiesis.
3. Write the composition and functions of bile.
4. Write about sliding filament theory of skeletal muscle contraction.
5. Write about the actions of growth hormone.
6. Draw and describe the structure of the neuromuscular junction.
7. Draw and describe the structure of Juxtaglomerular apparatus.
8. Describe oxygen-hemoglobin dissociation curve and discuss the factors affecting it.

III. Short answers on:

(10 x 2 = 20)

1. List the common refractive errors of the eye.
2. List the ascending sensory pathways.
3. Name the types of shock.
4. Mention the parts of the respiratory tract.
5. What is Milk ejection reflex?
6. Name the different cells present in the pancreatic islet and their secretions.
7. List any two differences between unitary and multi-unit smooth muscle.
8. Mention any two functions of lymph.
9. Name the different types of T cells.
10. Name the different stages of hemostasis.
