

[LH 6173]

AUGUST 2015

Sub.Code : 6173

FIRST YEAR BOT EXAMINATION
(New Regulations for the candidates admitted from 2014-2015 onwards)
PAPER III – PHYSIOLOGY

Q.P. Code: 786173

Time: Three hours

Maximum: 100 marks

I. Elaborate on:

(2 x 20 = 40)

1. What is GFR? Describe in detail the factors affecting it? Add a note on its estimation.
2. Name the hormones involved in menstrual cycle. Describe the changes in uterus and ovary during different phases of menstrual cycle.

II. Write notes on:

(8 x 5 = 40)

1. Chemical regulation of respiration.
2. Placental hormones.
3. Synapse.
4. Lactation.
5. Short term regulation of blood pressure.
6. Cerebral Cortex.
7. Extrinsic mechanism of coagulation.
8. Auditory pathway.

III. Short answers on:

(10 x 2 = 20)

1. Composition of gastric juice.
2. Types of T cells.
3. Grave's disease.
4. Parts of cerebellum.
5. Myofilaments.
6. What is Parturition?
7. Name four enzymes of pancreatic juice.
8. What is Innate immunity?
9. Catecholamines.
10. Taste buds.

[LI 6173]

FEBRUARY 2016

Sub. Code : 6173

FIRST YEAR BOT EXAMINATION
(New Regulations for the candidates admitted from 2014-2015 onwards)
PAPER III – PHYSIOLOGY

Q.P. Code: 786173

Time: Three hours

Maximum: 100 Marks

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

1. Define Blood pressure. Write in detail short term and long term regulation of Blood pressure. Add a note on Hypertension.
2. Explain the Physiological anatomy of Cerebellum and give details about the Cerebellar function test.

II. Write notes on: **(8 x 5 = 40)**

1. Lung volumes and capacities.
2. Regulation of Cardiac output and its estimation.
3. Synapse.
4. Parturition.
5. Nervous regulation of respiration.
6. Active transport.
7. Menstrual cycle.
8. Taste pathway.

III. Short answers on: **(10 x 2 = 20)**

1. Composition of gastric juice.
2. Immunoglobulins.
3. Grave's disease.
4. Testosterone.
5. Sarcomere.
6. Neuroendocrine reflex.
7. Cholecystokinin –Pancreozymin.
8. What is Micturition?
9. Smooth muscle.
10. Organ of Corti.

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FEBRUARY 2017

Sub.Code : 6173

BOT DEGREE EXAMINATION
(New Regulations for the candidates admitted from 2014-2015 onwards)
FIRST YEAR
PAPER III – PHYSIOLOGY
Q.P. Code: 786173

Time: Three hours

Maximum: 100 Marks

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

1. Describe structure of skeletal muscle and write the mechanism of skeletal muscle contraction.
2. Describe the oxygen transport mechanism. Add a note on Hypoxia.

II. Write notes on: **(8 x 5 = 40)**

1. Anemia and its classification.
2. Deglutition reflex.
3. Neuromuscular junction.
4. Factors regulating GFR.
5. Factors determining blood pressure.
6. Lung volumes and capacities.
7. Color vision.
8. Functions of glucocorticoids.

III. Short answers on: **(10 x 2 = 20)**

1. What is Landsteiner' Law?
2. Write two examples of negative feedback mechanism.
3. What is the difference between isotonic and isometric contraction.
4. Name the pancreatic enzymes and their actions.
5. Juxta glomerular apparatus.
6. Name the different phases of cardiac cycle.
7. What are the hormones regulating calcium level in the body.
8. Milk ejection reflex.
9. Types of reflexes.
10. Name the errors of refraction and their correction.

[LL 6173]

AUGUST 2017

Sub.Code : 6173

BOT DEGREE EXAMINATION
(New Regulations for the candidates admitted from 2014-2015 onwards)
FIRST YEAR
PAPER III – PHYSIOLOGY

Q.P. Code: 786173

Time: Three hours

Maximum: 100 Marks

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

1. Define GFR. What are the factors regulating GFR? Add a note on Glomerular Function Tests.
2. Write in detail the regulation of Blood Pressure. Add a note on Hypertension.

II. Write notes on: **(8 x 5 = 40)**

1. Rh Incompatibility.
2. Movements of small intestine.
3. Conduction system of heart.
4. Hypoxia.
5. Cystometrogram.
6. Pyramidal tract.
7. Spermatogenesis.
8. Clotting mechanism.

III. Short answers on: **(10 x 2 = 20)**

1. Sodium potassium ATPase pump.
2. Functions of blood.
3. Draw a labeled diagram of neuromuscular junction.
4. What is deglutition apnea?
5. Define shock and its type.
6. Write the functions of hypothalamus.
7. Function of CSF.
8. Organ of corti.
9. Name the hormone regulating glucose levels in our body.
10. What are the tests for ovulation?

[LM 6173]

FEBRUARY 2018

Sub.Code : 6173

BOT DEGREE EXAMINATION
(New Regulations for the candidates admitted from 2014-2015 onwards)
FIRST YEAR
PAPER III – PHYSIOLOGY

Q.P. Code: 786173

Time: Three hours

Maximum: 100 Marks

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

1. Draw an Oxygen dissociation curve and describe how oxygen is transported in the blood. Add a note on Hypoxia.
2. Draw a labeled diagram of Neuromuscular junction. Describe the events involved in neuromuscular transmission. Add note on neuromuscular blockers.

II. Write notes on: **(8 x 5 = 40)**

1. Composition and functions of saliva.
2. Menstrual cycle.
3. Heart sounds.
4. Waves of ECG in Lead II.
5. Stages of deglutition.
6. A transport mechanisms across cell membrane.
7. Functions of cerebellum.
8. Micturition reflex.

III. Short answers on: **(10 x 2 = 20)**

1. Functions of Aqueous humor.
2. Factors affecting cardiac output.
3. Functions of Bile.
4. Vital capacity of Lung.
5. Polycythemia.
6. Referred pain.
7. Reflex arc.
8. Functions of WBC (White Blood Corpuscles).
9. Define blood pressure.
10. Mention four properties of Cardiac muscle.

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

[LN 6173]

AUGUST 2018

Sub.Code : 6173

BOT DEGREE EXAMINATION
(New Regulations for the candidates admitted from 2014-2015 onwards)
FIRST YEAR
PAPER III – PHYSIOLOGY

Q.P. Code: 786173

Time: Three hours

Maximum: 100 Marks

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

1. What are the types of muscular exercise? Discuss the various cardio vascular changes occurring during the exercise.
2. Discuss the origin, course and functions of Pyramidal tract. Add a note on Hemiplegia.

II. Write notes on: (8 x 5 = 40)

1. Explain intrinsic mechanism of coagulation of blood.
2. Renin Angiotensin system.
3. Neuromuscular junction.
4. Oxygen Dissociation Curve.
5. Composition and functions of bile.
6. Actions of insulin.
7. Functions of Placenta.
8. Primary active transport.

III. Short answers on: (10 x 2 = 20)

1. Acromegaly.
2. Function of CSF.
3. Motor Unit.
4. Erythroblastosis Foetalis.
5. Heart Sounds.
6. Anemia.
7. Oxygen debt.
8. Functions of skin.
9. Muscles of inspiration.
10. Errors of refraction with correction.

BOT DEGREE EXAMINATION
(New Regulations for the candidates admitted from 2014-2015 onwards)
FIRST YEAR
PAPER III – PHYSIOLOGY

Q.P. Code: 786173

Time: Three hours

Maximum: 100 Marks

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

1. Define arterial blood pressure. Describe the nervous regulation of arterial blood pressure.
2. Enumerate the ascending tracts in the spinal cord. Describe the pathway for pain in detail. Add a note on referred pain.

II. Write notes on: (8 x 5 = 40)

1. Functions of juxtaglomerular apparatus.
2. Classification of the blood groups and complications of blood transfusion.
3. Types of Hypoxia and its cause.
4. Functions of plasma proteins.
5. Functions of Liver.
6. Carbon dioxide transport.
7. Neuromuscular junction.
8. Enumerate the hormones secreted by anterior pituitary gland. Mention the actions of growth hormone.

III. Short answers on: (10 x 2 = 20)

1. Functions of middle ear.
2. Surfactant.
3. Functions of Sertoli cells.
4. Name the hormones of adrenal cortex.
5. Anticoagulants.
6. Facilitated diffusion.
7. Glomerular Filtration Rate (GFR).
8. Corpus luteum.
9. What is the difference between the Spasticity and Rigidity?
10. Sarcomere.

BOT DEGREE EXAMINATION
(New Regulations for the candidates admitted from 2014-2015 onwards)
FIRST YEAR
PAPER III – PHYSIOLOGY

Q.P. Code: 786173

Time: Three hours

Maximum: 100 Marks

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

1. Define erythropoiesis. List the different stages of erythropoiesis. Describe the changes which take place in each stage and the factors necessary for erythropoiesis.
2. Discuss the origin, course and functions of Pyramidal tract with applied physiology.

II. Write notes on: (8 x 5 = 40)

1. Iron deficiency anaemia.
2. Functions of cerebellum.
3. Test for ovulation.
4. Movements of small intestine.
5. Color vision.
6. Acidification of urine.
7. Lung volumes and capacity.
8. Regulation of Cardiac output and its estimation.

III. Short answers on: (10 x 2 = 20)

1. Reflex arc.
2. Homeostasis and its components.
3. Shock and its types.
4. Milk ejection reflex.
5. Rh incompatibility.
6. Immunoglobulins.
7. Organ of corti.
8. Deglutition apnea.
9. Phagocytosis.
10. Properties of RBC.

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FEBRUARY 2020

Sub.Code : 6173

BOT DEGREE EXAMINATION
(New Regulations for the candidates admitted from 2014-2015 onwards)
FIRST YEAR
PAPER III – PHYSIOLOGY

Q.P. Code: 786173

Time: Three hours

Maximum: 100 Marks

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

1. Describe the structure of Neuromuscular junction and events involved in neuromuscular transmission. Add a note on myasthenia gravis.
2. Trace the visual pathway and describe the effects of lesions at various levels in the pathway.

II. Write notes on: (8 x 5 = 40)

1. Define anaemia and classify it based on morphology.
2. Composition and functions of pancreatic juice.
3. Posterior pituitary hormones.
4. Hormonal changes during the menstrual cycle.
5. Micturition reflex.
6. Define Lung volumes with its normal values.
7. Baroreceptor mechanism.
8. Features of Upper Motor Neuron (UMN) lesion and Lower Motor Neuron (LMN) lesion.

III. Short answers on: (10 x 2 = 20)

1. List any two functions of placenta.
2. Normal platelet count and its function.
3. Vital capacity.
4. Define Minute ventilation.
5. Electrocardiogram (ECG).
6. Mention the determinants of cardiac output.
7. Name the speech areas in the brain.
8. Mention any two functions of hypothalamus.
9. Referred pain.
10. Parkinson disease.

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

[LR 1220]

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

Sub. Code: 6173

**BOT DEGREE EXAMINATION
FIRST YEAR**

(New regulations for the candidates admitted from 2014-2015 onwards)

PAPER III – PHYSIOLOGY

Q.P. Code: 786173

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define Blood Coagulation. Discuss the mechanisms involved in blood clotting. Add a note on its applied aspects.
2. Discuss Oxygen and Carbon-dioxide transport in detail.

II. Write notes on:

(8 x 5 = 40)

1. Micturition reflex.
2. Bile.
3. Venous return.
4. Endometrial cycle.
5. Posterior pituitary hormones.
6. Properties of synapse.
7. Draw the visual pathway.
8. Neuro-muscular transmission of Impulses.

III. Short answers on:

(10 x 2 = 20)

1. Functions of salivary juice secretion.
2. Heart sounds.
3. Erythroblastosis foetalis.
4. Tidal volume.
5. Cushing's syndrome.
6. Rigor mortis.
7. Reflex Arc.
8. List the refractive errors.
9. Hormonal functions of placenta.
10. Refractory period.

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

[BOT 0321]

**MARCH 2021
(AUGUST 2020 EXAM SESSION)
BOT DEGREE EXAMINATION
FIRST YEAR**

Sub. Code: 6173

(New regulations for the candidates admitted from 2014-2015 onwards)

PAPER III – PHYSIOLOGY

Q.P. Code: 786173

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. What is Glomerular Filtration Rate? Describe in detail the factors affecting it? Add a note on its estimation.
2. Name the hormones involved in menstrual cycle. Describe the changes in uterus and ovary during different phases of menstrual cycle.

II. Write notes on:

(8 x 5 = 40)

1. Lung volumes and Capacities.
2. Hormones secreted by kidney.
3. Composition and functions of Pancreatic juice.
4. Factors that affect Cardiac output.
5. Write about Spermatogenesis.
6. Properties of Cardiac Muscle.
7. Functions of Cerebellum.
8. Write about Hemophilia.

III. Short answers on:

(10 x 2 = 20)

1. Functions of gastric juice secretion.
2. Define blood pressure.
3. Packed cell volume.
4. What is dead space ?
5. Write about Acromegaly.
6. Myasthenia gravis.
7. Saltatory conduction.
8. Pupillary reflex.
9. Functions of Testosterone.
10. Active transport.

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[BOT 0921]

**SEPTEMBER 2021
(FEBRUARY 2021 EXAM SESSION)**

Sub. Code: 6173

**BOT DEGREE EXAMINATION
FIRST YEAR - (Regulations for the candidates admitted from 2014-2015 onwards)
PAPER III – PHYSIOLOGY
*Q.P. Code : 786173***

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

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

1. Define respiration. Explain in detail the physiology of respiration.
2. Explain the chemical regulation of respiration. Add note on Hypoxia.

II. Write notes on: **(8 x 5 = 40)**

1. Baroreceptor reflex.
2. Describe the phases of gastric juice secretion.
3. Classification of nerve fibres.
4. Give an account on micturition.
5. Hormones regulating calcium homeostasis.
6. Spermatogenesis.
7. Conducting system of the Heart.
8. Excitation-contraction coupling in skeletal muscle.

III. Short answers on: **(10 x 2 = 20)**

1. Functions of mitochondria.
2. Contents of middle ear.
3. Myasthenia gravis.
4. Refractory period.
5. Mention four Peculiarities of coronary circulation.
6. List out two differences between UMN and LMN lesions.
7. What is referred pain?
8. Mention four non respiratory functions of lung.
9. Enumerate heat loss mechanism.
10. Hemophilia.

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[BOT 0122]

**JANUARY 2022
(AUGUST 2021 EXAM SESSION)**

Sub. Code: 6173

**BACHELOR OF OCCUPATIONAL THERAPY DEGREE COURSE
FIRST YEAR - (Regulations for the candidates admitted from 2014-2015 onwards)
PAPER III – PHYSIOLOGY
*Q.P. Code : 786173***

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Enumerate the various changes taking place during muscular contraction and explain the molecular basis of contraction. Add a note on rigor mortis.
2. Describe the transport of oxygen from lungs to tissues. Add a note on hypoxia.

II. Write notes on:

(8 x 5 = 40)

1. Negative feedback mechanism.
2. Movements of intestine.
3. Hypothalamo-pituitary Axis.
4. Glomerular filtration rate.
5. Long term regulation of blood pressure.
6. Taste pathway.
7. Differentiate between upper motor neuron & lower motor neuron lesion.
8. Functions of hypothalamus.

III. Short answers on:

(10 x 2 = 20)

1. Erythroblastosis Fetalis.
2. Na⁺K⁺ATPase pump.
3. Antidiuretic hormone.
4. Peptic ulcer.
5. List the hormones secreted by the various layers of the adrenal cortex.
6. Ventilation/perfusion ratio.
7. Oedema.
8. Reflex arc.
9. Functions of plasma proteins.
10. Stroke volume.

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

[BOT 0622]

**JUNE 2022
(FEBRUARY 2022 EXAM SESSION)**

Sub. Code: 6173

**BACHELOR OF OCCUPATIONAL THERAPY DEGREE COURSE
FIRST YEAR - (Regulations for the candidates admitted from 2014-2015 onwards)
PAPER III – PHYSIOLOGY
Q.P. Code : 786173**

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. List the ascending tracts in the spinal cord. Describe the pain pathway in detail. Add a note on referred pain.
2. Describe the mechanism of secretion of Hydrochloric acid in the stomach. What are the factors regulating acid secretion? Add a note on peptic ulcer.

II. Write notes on:

(8 x 5 = 40)

1. Transport across the cell membrane.
2. Blood grouping.
3. Neuromuscular junction.
4. Hormonal regulation of menstrual cycle.
5. Physiological adaptations occurring at high altitude.
6. Conducting system of heart.
7. Parkinson's disease.
8. Functions of middle ear.

III. Short answers on:

(10 x 2 = 20)

1. Classify types of WBC.
2. Renin-angiotensin system.
3. Gastric mucosal barrier.
4. Atonic bladder.
5. Resting membrane potential.
6. Differentiate between Type I and Type II diabetes mellitus.
7. Vital capacity.
8. Stroke volume.
9. Saltatory conduction.
10. Law of projection.

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

[BOT 1022]

**OCTOBER 2022
(AUGUST 2022 EXAM SESSION)**

Sub. Code: 6173

**BACHELOR OF OCCUPATIONAL THERAPY DEGREE COURSE
FIRST YEAR - (Regulations for the candidates admitted from 2014-2015 onwards)
PAPER III – PHYSIOLOGY
*Q.P. Code : 786173***

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define Erythropoiesis. Discuss the steps involved in Erythropoiesis. Add a note on Anaemia.
2. Define Cardiac Cycle. Explain the events in different phases of Cardiac Cycle with illustrative diagrams.

II. Write notes on:

(8 x 5 = 40)

1. Neuromuscular Junction.
2. Mitochondria.
3. Functions of Thalamus.
4. Pain pathway.
5. Deglutition Reflex.
6. Endocrine functions of Kidney.
7. Tests for Ovulation.
8. Functions of Glucocorticoids.

III. Short answers on:

(10 x 2 = 20)

1. Phagocytosis.
2. Surfactant.
3. Law of the Intestine.
4. Functions of Sertoli cells.
5. Motor unit.
6. Landsteiner's Law.
7. Diabetes Insipidus.
8. Clubbing.
9. What is Artificial kidney?
10. Colour Blindness.

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

[BOT 0423]

**APRIL 2023
(FEBRUARY 2023 EXAM SESSION)**

Sub. Code: 6173

**BACHELOR OF OCCUPATIONAL THERAPY DEGREE COURSE
FIRST YEAR - (Regulations for the candidates admitted from 2014-2015 onwards)
PAPER III – PHYSIOLOGY**

Q.P. Code: 786173

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define Blood Pressure. Discuss the factors regulating Arterial Pressure. Add a note on Hypertension.
2. Define Hemostasis. Discuss the mechanism of Blood Coagulation. What is Hemophilia?

II. Write notes on:

(8 x 5 = 40)

1. Juxtaglomerular Apparatus.
2. Auditory Pathway.
3. Oxygen Hemoglobin Dissociation Curve.
4. Functions of Thyroxine.
5. Spermatogenesis.
6. Vesicular Transport.
7. Enterohepatic Circulation.
8. Properties of Smooth Muscle.

III. Short answers on:

(10 x 2 = 20)

1. What is Secondary Active Transport? State two examples of Secondary Active Transport.
2. All or None Law.
3. Types of Jaundice.
4. Name the fat soluble Vitamins.
5. Define Tidal Volume.
6. Neuroendocrine reflex.
7. Taste receptors.
8. Write any two Non Respiratory Functions of Lung.
9. Draw a neat diagram of a Spermatozoan and name its parts.
10. Name any two Excitatory Neurotransmitters.

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

[BOT 1123]

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

Sub. Code: 6173

**BACHELOR OF OCCUPATIONAL THERAPY DEGREE COURSE
FIRST YEAR - (Regulations for the candidates admitted from 2014-2015 onwards)
PAPER III – PHYSIOLOGY**

Q.P. Code: 786173

Time : Three hours

Answer ALL Questions

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Describe origin, course, termination and functioning of spinothalamic tract. Add a note on investigations used in spinal injury.
2. Define Erythropoiesis. Describe in detail the Stages and the Factors Regulating Erythropoiesis. Add a note on anemia.

II. Write notes on:

(8 x 5 = 40)

1. Functions of Stomach.
2. Counter Current Multiplier.
3. Cardiovascular changes during exercise.
4. Properties of cardiac muscle.
5. Conducting system of heart.
6. Functions of middle ear.
7. Regulation of blood sugar level.
8. Wallerian degeneration.

III. Short answers on:

(10 x 2 = 20)

1. Functions of Neutrophil.
2. Pregnancy test.
3. Law of Gut.
4. Secondary Active Transport.
5. Action potential.
6. Functions of skin.
7. Surfactants.
8. Name the phases of cardiac cycle.
9. Cretinism.
10. Properties of synapse.
