

BPT DEGREE EXAMINATION

FIRST YEAR

(Regulations for the candidates admitted from 2017-2018 onwards)

PAPER III – PHYSIOLOGY AND APPLIED PHYSIOLOGY

Q.P. Code: 746274

Time: Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 20 = 40)

1. Define cardiac output. Explain the factors regulating cardiac output. Add a note on effect of exercise on cardiac output.
2. Describe electron microscopic structure of Skeletal muscle. Discuss the mechanism of Skeletal Muscle Contraction.

II. Write notes on:

(8 x 5 = 40)

1. Phagocytosis.
2. Carbon dioxide transport.
3. Cerebrospinal Fluid.
4. Referred pain.
5. Juxta Glomerular Apparatus (JGA).
6. Functions of liver.
7. Neuro endocrinal reflex.
8. Spermatogenesis.

III. Short answers on:

(10 x 2 = 20)

1. Accommodation reflex.
2. Functions of Haemoglobin.
3. Surfactant.
4. Gastrin.
5. Facilitated diffusion.
6. Oxygen debt.
7. Functions of Hypothalamus.
8. Acromegaly.
9. List of four of functions of plasma proteins.
10. Homeostasis.

[LO 6274]

FEBRUARY 2019

Sub. Code: 6274

**BPT DEGREE EXAMINATION
FIRST YEAR**

**(Regulations for the candidates admitted from 2017-2018 onwards)
PAPER III – PHYSIOLOGY AND APPLIED PHYSIOLOGY**

Q.P. Code: 746274

Time: Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the origin, course and functions of Pyramidal tract. Add a note on Hemiplegia.
2. Discuss in detail the stages of erythropoiesis and the factors affecting it. Add a note on polycythemia.

II. Write notes on:

(10 x 5 = 50)

1. Hypoxia.
2. Functions of thyroid hormone.
3. Neuromuscular junction.
4. Contraception.
5. Functions of saliva.
6. Micturition reflex.
7. Short term regulation of blood pressure.
8. Conduction system of heart.
9. Normal E.C.G.
10. Functions of Cerebellum.

III. Short answers on:

(10 x 2 = 20)

1. List lung volumes and it's normal value.
2. Smooth muscle.
3. List four special features of coronary circulation.
4. Na⁺ K⁺ pump.
5. Refractory errors.
6. Diabetes mellitus.
7. What is surfactant?
8. Mention the functions of skin.
9. Heart sounds.
10. Two effects of exercise on Respiration.

[LP 6274]

AUGUST 2019

Sub. Code: 6274

**BPT DEGREE EXAMINATION
FIRST YEAR**

**(Regulations for the candidates admitted from 2017-2018 onwards)
PAPER III – PHYSIOLOGY AND APPLIED PHYSIOLOGY**

Q.P. Code: 746274

Time: Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe in detail with the help of diagrams the molecular mechanism of contraction of Skeletal Muscle. Add a note on rigor mortis.
2. Describe uterine and ovarian changes during different phases of menstrual cycle with neat diagram. Add a note on hormonal changes during menstrual cycle.

II. Write notes on:

(10 x 5 = 50)

1. Facilitated diffusion.
2. Functions of plasma proteins.
3. Movements of small intestine.
4. Cystometrogram.
5. Functions of glucocorticoids.
6. Types of shock.
7. Artificial respiration.
8. Draw respiratory membrane and explain factors affecting diffusion of gases.
9. What is referred pain? Explain theories associated with it.
10. Functions of middle ear.

III. Short answers on:

(10 x 2 = 20)

1. Types of T lymphocytes.
2. Sarcomere.
3. Functions of bile salts.
4. What are diuretics? Give two examples.
5. Babinski's sign and its significance.
6. Dark adaptation in eye.
7. Name hormones involved in calcium homeostasis.
8. Physiological basis of pregnancy tests.
9. Types of sleep.
10. Muscles involved in breathing.

[LQ 6274]

FEBRUARY 2020

Sub. Code: 6274

BPT DEGREE EXAMINATION

FIRST YEAR

(Regulations for the candidates admitted from 2017-2018 onwards)

PAPER III – PHYSIOLOGY AND APPLIED PHYSIOLOGY

Q.P. Code: 746274

Time: Three hours

Maximum : 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe the pathway for Pain in detail. Add a note on Referred pain.
2. Define Glomerular Filtration Rate (GFR). Describe the mechanism of glomerular filtration and the various factors affecting it. Discuss in detail the regulation of GFR.

II. Write notes on:

(10 x 5 = 50)

1. Facilitated Diffusion.
2. Humoral Immunity.
3. Myasthenia Gravis.
4. Jugular Venous Pressure.
5. Cardio-respiratory changes during exercise.
6. Ovarian cycle.
7. Peptic Ulcer.
8. Auditory pathway.
9. Hypoxia.
10. Synapse.

III. Short answers on:

(10 x 2 = 20)

1. Reticulocyte.
2. Starling forces acting on capillary wall.
3. Sarcotubular system.
4. Gastrin.
5. Einthoven's triangle.
6. Functional Residual Capacity.
7. Heart sounds.
8. Placental hormones.
9. Olfactory Pathway.
10. Inverse stretch reflex.

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

[LR 1220]

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

Sub. Code: 6274

**BPT DEGREE EXAMINATION
FIRST YEAR**

**(New regulations for the candidates admitted from 2017-2018 onwards)
PAPER III – PHYSIOLOGY AND APPLIED PHYSIOLOGY
Q.P. Code: 746274**

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe the countercurrent mechanism of concentration of Urine. Add a note on Diabetes Insipidus.
2. Define Cardiac cycle. Describe the events in various phases with the help of diagrams.

II. Write notes on:

(10 x 5 = 50)

1. Milk ejection reflex.
2. Hazards of blood transfusion.
3. Ionic events in action potential of nerve.
4. Functions of liver.
5. Hypersecretion of growth hormone.
6. Hormonal changes in various phases of menstrual cycle.
7. Taste pathway.
8. Oxygen hemoglobin dissociation curve.
9. Functions of hypothalamus.
10. Refractive errors of eye.

III. Short answers on:

(10 x 2 = 20)

1. Difference between primary and secondary active transport.
2. Erythroblastosis fetalis.
3. Motor unit.
4. Functions of large intestine.
5. Hormonal defect in a) Acromegaly b) Cretinism.
6. Reflex arc.
7. State Frank Starling's law of the heart.
8. Define Residual volume, give its clinical significance.
9. Indicators of ovulation.
10. Name the cranial nerves carrying the taste sensation.

[BPT 0321]

MARCH 2021
(AUGUST 2020 EXAM SESSION)

Sub. Code: 6274

BPT DEGREE EXAMINATION
FIRST YEAR
(New regulations for the candidates admitted from 2017-2018 onwards)
PAPER III – PHYSIOLOGY AND APPLIED PHYSIOLOGY
Q.P. Code: 746274

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. What is a Synapse? Classify synapse. Explain the properties of synapse.
2. Define Erythropoiesis. Explain the different stages of Erythropoiesis. List the factors influencing Erythropoiesis.

II. Write notes on:

(10 x 5 = 50)

1. Blood Groups.
2. Calcitrophic Hormones.
3. Write about Sarcomere.
4. Hormonal Regulation of menstrual cycle.
5. Explain Spermatogenesis with diagram.
6. Functions of glucocorticoids.
7. Functions of plasma proteins.
8. Types of Jaundice.
9. Effects of exercise on cardiovascular system.
10. Actions of insulin.

III. Short answers on:

(10 x 2 = 20)

1. Define Homeostasis.
2. Action potential.
3. Functions of kidney.
4. Functions of Cerebellum.
5. Write about in vitro and in vivo Anticoagulants.
6. Refractory period.
7. Saltatory Conduction.
8. Hormones secreted by the posterior pituitary gland.
9. Write about Neuroglia.
10. What is Cyanosis.

[BPT 0921]

SEPTEMBER 2021
(FEBRUARY 2021 EXAM SESSION)

Sub. Code: 6274

BPT DEGREE EXAMINATION
FIRST YEAR- (Regulations for the candidates admitted from 2017-2018 onwards)
PAPER III – PHYSIOLOGY AND APPLIED PHYSIOLOGY
Q.P. Code : 746274

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Name the three steps in formation of urine. What is Glomerular filtration rate and factors regulating it? Add a note on renal clearance.
2. Define Immunity. What are types of immunity? Discuss the mechanism of cell mediated immunity.

II. Write notes on:

(10 x 5 = 50)

1. Referred pain.
2. Conducting system of the Heart.
3. What is Cretinism.
4. Intrinsic mechanism of coagulation.
5. Enterohepatic circulation.
6. Define shock. What are the types of shock?
7. Regulatory centres of respiration.
8. Hypothyroidism and hyperthyroidism.
9. Contraceptive methods in female.
10. Passive transport.

III. Short answers on:

(10 x 2 = 20)

1. Difference between cortical and juxta-medullary nephrons.
2. Formation of hydrochloric acid.
3. Write about Surfactant.
4. Name two excitatory and two inhibitory neurotransmitters.
5. Draw a neat diagram of a Nephron and label its parts.
6. Define stroke volume and what is the normal value?
7. Wallerian degeneration.
8. Salivary enzymes.
9. Succus entericus and its enzymes.
10. Pace maker of the heart.

BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
FIRST YEAR- (Regulation from 2017-2018 onwards)
PAPER III – PHYSIOLOGY AND APPLIED PHYSIOLOGY
Q.P. Code : 746274

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Define arterial blood pressure. Discuss in detail about the regulation of arterial BP. Add a note on Hypertension.
2. Describe the transport of carbon dioxide in Blood.

II. Write notes on:

(10 x 5 = 50)

1. Erythroblastosis fetalis.
2. Excitation-contraction coupling.
3. Passive and active transport.
4. Artificial respiration – types.
5. Cardiac output and factors regulating it.
6. Structure and functions of synapse.
7. Optic pathway.
8. Brown Sequard syndrome.
9. Diabetes Mellitus.
10. Mechanism of Hydrochloric Acid secretion.

III. Short answers on:

(10 x 2 = 20)

1. Properties of RBC.
2. Functions of bile.
3. Types of muscle.
4. List any four functions of cerebellum.
5. Functions of placenta.
6. Name any four GI hormones.
7. Inspiratory Reserve Volume.
8. Surfactant and its function.
9. All or None law.
10. Name the hormones involved in Regulation of water balance in our body.

BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
FIRST YEAR- (Regulation from 2017-2018 onwards)
PAPER III – PHYSIOLOGY AND APPLIED PHYSIOLOGY
Q.P. Code : 746274

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Define cardiac output and describe the factors regulating it.
2. Define and classify immunity. Explain in detail about humoral immunity.

II. Write notes on:

(10 x 5 = 50)

1. Cerebellum.
2. Homeostasis.
3. Heart sounds.
4. Draw a typical Action potential of nerve & explain its ionic basis.
5. Juxtaglomerular apparatus.
6. Deglutition.
7. Menstrual cycle.
8. Functions of skin.
9. Sarcomere.
10. Functions of cortisol.

III. Short answers on:

(10 x 2 = 20)

1. Function of mitochondria.
2. Apoptosis.
3. Surfactant.
4. Addison's disease.
5. Cross matching.
6. Carbamino haemoglobin.
7. Cystometrogram.
8. Hirschsprung's disease.
9. Puberty.
10. FEV1.

[BPT 1022]

OCTOBER 2022
(AUGUST 2022 EXAM SESSION)

Sub. Code: 6274

BACHELOR OF PHYSIOTHERAPY DEGREE COURSE
FIRST YEAR- (Regulation from 2017-2018 onwards)
PAPER III – PHYSIOLOGY, APPLIED PHYSIOLOGY
Q.P. Code : 746274

Time: Three hours

Answer ALL Questions

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe in detail about excitation contraction coupling of skeletal muscle.
2. Describe in detail about the ovarian, hormonal and uterine changes of different phases of Menstrual Cycle.

II. Write notes on:

(10 x 5 = 50)

1. Micturition reflex.
2. Phagocytosis.
3. Conductive system of heart.
4. Neuron.
5. Homeostasis of temperature.
6. Digestion and absorption of Fat.
7. Difference between UMN lesion and LMN lesion.
8. Pressure and volume changes of lung.
9. Functions of Plasma proteins.
10. Olfactory pathway.

III. Short answers on:

(10 x 2 = 20)

1. Metabolic acidosis.
2. Hypoxia.
3. Rigor mortis.
4. Mitosis.
5. Gigantism.
6. Extraocular muscle.
7. Osmosis.
8. Achalasia cardia.
9. Tight junction.
10. Colour blindness.
