

[LL 502]

AUGUST 2017

Sub.Code :5053

**M.B.B.S. DEGREE EXAMINATION
FIRST YEAR
PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I**

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: **(1 x 10 = 10)**

1. Define immunity. How will you classify immunity? Explain in detail cell mediated immunity.

II. Write notes on: **(5 x 4 = 20)**

1. Primary active transport.
2. Excitation contraction coupling.
3. Stages of deglutition.
4. Micturition reflex.
5. Hyperthyroidism.

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

1. Positive feedback mechanism.
2. Rigor mortis.
3. Polycythemia.
4. Bombay blood group.
5. Tubuloglomerular feedback.
6. Functions of large intestine.
7. Migratory motor complex.
8. Diabetes insipidus.
9. Features of Cushing's syndrome.
10. Male contraception.

[LL 502]

NOVEMBER 2017

Sub.Code :5053

**M.B.B.S. DEGREE EXAMINATION
FIRST YEAR
PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I**

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: **(1 x 10 = 10)**

1. Enumerate the hormones secreted by the anterior pituitary gland. Discuss the actions and regulation of growth hormone.

II. Write notes on: **(5 x 4 = 20)**

1. Role of helper T cells.
2. Action potential.
3. Juxtaglomerular apparatus.
4. Achalasia cardia.
5. Fetoplacental unit.

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

1. Reticulocyte response.
2. Clot retraction.
3. Sodium potassium pump.
4. Name the muscle proteins. What is the role of Troponin C in muscle contraction?
5. Role of H. Pylori in peptic ulcer.
6. Gastro colic reflex.
7. Physiological basis of treatment of diarrhea.
8. Anion gap.
9. Radio immunoassay.
10. List four differences between dwarfism and cretinism.

[LN 502]

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FIRST YEAR
PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I**

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: (1 x 10 = 10)

1. Explain in detail synthesis, secretion and functions of thyroid hormone. Add a note on cretinism.

II. Write notes on: (5 x 4 = 20)

1. T Lymphocyte.
2. Properties of smooth muscle.
3. Counter current system in kidney.
4. Composition and functions of pancreatic juice.
5. Female contraception.

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

1. Neuro muscular blockers.
2. Na^+K^+ ATPase pump.
3. Endocytosis.
4. Fibrinolytic agents.
5. Crossmatching.
6. Secretin.
7. Enteric nervous system.
8. Mention two substances used for measuring total body water and ECF volume.
9. Loop diuretics.
10. Neuro endocrine reflex.

[LN 502]

NOVEMBER 2018

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**M.B.B.S. DEGREE EXAMINATION
FIRST YEAR
PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I**

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: (1 x 10 = 10)

1. Define hemostasis. Describe the various stages involved in coagulation process.

II. Write notes on: (5 x 4 = 20)

1. Passive transport.
2. Gastric emptying.
3. Peculiarities of renal blood flow.
4. Second messengers.
5. Hyper secretion of growth hormone.

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

1. Mechanism of action of botulinum toxin and the basis of botox injections.
2. What is steatorrhea?
3. List out four functions of liver.
4. Draw schematically how HCL is formed.
5. What are renal threshold and tubular maximum for glucose?
6. Give an example of neuroendocrine reflex. Briefly outline its pathway.
7. Name four hormones which increase the blood glucose level. What is the mechanism of action of one these hormones?
8. Compare the actions of adrenaline and noradrenaline on heart and blood vessels.
9. Explain briefly the mechanism of action of contraceptive pill.
10. How does temperature influence spermatogenesis?

[LP 502]

AUGUST 2019

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FIRST YEAR
PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I**

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: **(1 x 10 = 10)**

1. Discuss the molecular basis of skeletal muscle contraction. Add a note on Rigor Mortis.

II. Write notes on: **(5 x 4 = 20)**

1. Complement system for antibody action.
2. Non-excretory functions of kidneys.
3. Glucose transporters.
4. Steps in spermatogenesis.
5. Erythroblastosis fetalis.

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

1. Apoptosis.
2. Functions of aldosterone.
3. Megaloblastic anaemia.
4. Filtration fraction.
5. Gigantism.
6. Atonic bladder.
7. Absorption of carbohydrates in the food.
8. Mast cells.
9. Milk let-down reflex.
10. Shape of erythrocytes.

[LP 502]

NOVEMBER 2019

Sub.Code :5053

**M.B.B.S. DEGREE EXAMINATION
FIRST YEAR
PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I**

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: (1 x 10 = 10)

1. Describe the structure of glomerular capillary membrane and the factors affecting glomerular filtration. Add a note on measurement of glomerular filtration rate.

II. Write notes on: (5 x 4 = 20)

1. Monocyte – macrophage system.
2. Genesis of resting membrane potential.
3. Regulation of gastric secretion.
4. Aldosterone escape.
5. Describe the physiological basis of length - tension relationship.

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

1. Anticoagulants.
2. Facilitated diffusion.
3. Functions of lymph.
4. Vitamin D deficiency.
5. Enterohepatic circulation.
6. Achalasia cardia.
7. Actions of glucagon.
8. Bartter's syndrome.
9. Female - Pseudohermaphroditism.
10. Energy sources in muscle.

[LR 502]

AUGUST 2020

Sub.Code :5053

**M.B.B.S. DEGREE EXAMINATION
FIRST YEAR
PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I**

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: **(1 x 10 = 10)**

1. Describe in detail the mechanism of clotting of Blood

II. Write notes on: **(5 x 4 = 20)**

1. Factors affecting Glomerular Filtration Rate
2. Micturition Reflex
3. Functions of Growth Hormone
4. Negative Feedback Mechanism
5. Peptic ulcer

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

1. Refractory period
2. Enteric nervous system
3. Name Four G.I Hormones
4. Cretinism
5. Diuretics
6. Functions of placenta
7. LH Surge
8. Gall Stones
9. Functions of platelets
10. Motor Unit

[LT 502]

NOVEMBER 2020

Sub.Code :5053

**M.B.B.S. DEGREE EXAMINATION
FIRST YEAR
PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I**

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: **(1 x 10 = 10)**

1. Define Immunity. Discuss in detail about various types of Immunity. Add note on Autoimmune disease.

II. Write notes on: **(5 x 4 = 20)**

1. Functions of Plasma Proteins.
2. Various stages of nerve Action Potential.
3. Functions of Stomach.
4. Conn's syndrome.
5. Heat production in Skeletal Muscle.

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

1. Functions of Neutrophil.
2. Endocytosis.
3. Free water clearance.
4. Actions of Parathyroid Hormone.
5. Thyroid function test.
6. Composition of Semen.
7. Pregnancy test.
8. Disseminated intravascular coagulation (DIC).
9. Laws of blood grouping.
10. Law of Gut.

[MBBS 0821]

AUGUST 2021

Sub.Code :5053

**M.B.B.S. DEGREE EXAMINATION
FIRST YEAR
PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I**

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: **(1 x 10 = 10)**

1. Define Erythropoiesis. Describe in detail the Stages and the Factors Regulating Erythropoiesis .

II. Write notes on: **(5 x 4 = 20)**

1. Counter Current Multiplier.
2. Cystometrogram.
3. Steps in Thyroxine Synthesis.
4. Migrating motor Complex.
5. Placental Hormones.

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

1. Frank starling Law.
2. Molecular Motors.
3. Secondary Active Transport.
4. Segmentation Contraction.
5. Feto Placental unit.
6. Functions of Saliva.
7. Tests for Ovulation.
8. Haemophilia.
9. Types of Smooth Muscle.
10. Hormones of Calcium Homeostasis.

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

[MBBS 0222]

FEBRUARY 2022

Sub.Code :5053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2018-2019)

FIRST YEAR

PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: (1 x 10 = 10)

1. Describe in detail the Mechanism of Hydrochloric Acid Secretion in Parietal Cell of Stomach.

II. Write notes on: (5 x 4 = 20)

1. Functions of Plasma Proteins.
2. Juxta Glomerular Apparatus.
3. Renin – Angiotensin System.
4. Cell Mediated Immunity.
5. Positive Feedback Mechanism.

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

1. Cross Matching.
2. Isotonic and Isometric Contraction.
3. Myasthenia Gravis.
4. Acromegaly.
5. Dialysis.
6. Functions of Glucocorticoids.
7. Polycythemia.
8. Renal Clearance.
9. Functions of Testosterone.
10. Tests for Ovulation.

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

[MBBS 0822]

AUGUST 2022

Sub. Code :5053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted upto the Academic Year 2018-2019)

FIRST YEAR

PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS - I

Q.P. Code: 525053

Time: Three hours

Maximum : 50 Marks

Answer All Questions

I. Essay: **(1 x 10 = 10)**

1. Define Hemostasis. Describe the various stages involved in coagulation process. Add a note on Anti-coagulants.

II. Write notes on: **(5 x 4 = 20)**

1. Genesis of Resting Membrane Potential.
2. Functions of Insulin.
3. Stages of Deglutition.
4. Classify the transport across cell membrane. Write briefly about active transport.
5. Cystometrogram.

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

1. Aldosterone escape.
2. Functions of large intestine.
3. Draw and label neatly the parts of the sperm.
4. Positive feedback mechanism with example.
5. Types of skeletal muscle.
6. Types of T-cell.
7. Steatorrhea.
8. Sheehan's syndrome.
9. Aquaporins.
10. Difference between acromegaly and gigantism.

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

[MBBS 0824]

AUGUST 2024

Sub. Code :5053

**M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted upto the Academic Year 2018-2019)**

FIRST YEAR

PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS – I

Q.P. Code: 525053

Time: Three hours

Answer All Questions

Maximum : 50 Marks

I. Essay: (1 x 10 = 10)

1. Describe in detail the movements of Small intestine. Add a note on migrating motor complex.

II. Write notes on: (5 x 4 = 20)

1. Humoral immunity.
2. Excitation contraction coupling.
3. Negative feedback mechanism.
4. Tests for ovulation and their physiological basis.
5. Juxtaglomerular apparatus.

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

1. Innervation of urinary bladder.
2. Functions of Antidiuretic hormone (ADH).
3. Importance of corpus Luteum of pregnancy.
4. Clinical features of Cushing's syndrome.
5. Emulsification of fat.
6. Myasthenia gravis.
7. Patch clamp technique.
8. List the differences between Dwarfism and Cretinism.
9. Bombay blood group.
10. Diabetic Ketoacidosis.

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

[MBBS 0924]

SEPTEMBER 2024

Sub. Code :5053

M.B.B.S. DEGREE EXAMINATION

For the candidates admitted upto the Academic Year 2018-2019)

FIRST YEAR - SUPPLEMENTARY

PAPER III – PHYSIOLOGY INCLUDING BIO-PHYSICS – I

Q.P. Code: 525053

Time: Three hours

Answer All Questions

Maximum : 50 Marks

I. Essay:

(1 x 10 = 10)

1. Discuss the role of Insulin in glucose homeostasis. Add a note on diabetes mellitus.

II. Write notes on:

(5 x 4 = 20)

1. Monocyte – Macrophage cell system.
2. Digestion of fats.
3. Cystometrogram.
4. Steps in spermatogenesis.
5. Types of skeletal muscles.

III. Short answers on:

(10 x 2 = 20)

1. Myasthenia gravis.
2. Negative feedback mechanism.
3. Packed Cell Volume (PCV).
4. Enteric Nervous System (ENS).
5. Types of nephrons.
6. Sarcomere.
7. Exophthalmos.
8. Basophils.
9. Cholecystokinin.
10. Menopause.
