

[MBBS 0221]

FEBRUARY 2021

Sub.Code :6053

**M.B.B.S. DEGREE EXAMINATION
FIRST YEAR
PAPER I – PHYSIOLOGY**

Q.P. Code: 526053

Time: Three hours

Maximum : 100 Marks (80 Theory + 20MCQs)

Answer All Questions

I. Essay:

(2 x 15 = 30)

1. Describe the physiological roles of the different types of leucocytes circulating in blood. Add a note on functions of lymphocytes in viral infection.
2. Describe the digestion and absorption of proteins in the digestive tract. Write a note on malabsorption.

II. Write notes on:

(10 x 5 = 50)

1. Classify the fluid compartments of body giving their normal values, mention two methods to determine E.C.F. volume.
2. Transport across cell membrane.
3. Structure and functions of Neuromuscular junction.
4. Tissue macrophage system.
5. Non-excretory functions of kidney.
6. Cystometrogram and its significance.
7. Secretion of HCl in stomach and its regulation.
8. Regulations of blood calcium levels.
9. Spermatogenesis and seminal analysis.
10. Female contraceptive methods for birth control.

[MBBS 0521]

MAY 2021

Sub.Code :6053

**M.B.B.S. DEGREE EXAMINATION
FIRST YEAR
PAPER I – PHYSIOLOGY**

Q.P. Code: 526053

Time: Three hours

Maximum : 100 Marks (80 Theory + 20MCQs)

Answer All Questions

I. Essay:

(2 x 15 = 30)

1. Describe the mechanism of secretion of Hydrochloric acid in the stomach. What are the factors regulating acid secretion? Add a note on peptic ulcer.
2. What is Erythropoiesis? Describe the stages and factors regulating Erythropoiesis. Add a note on Anaemias.

II. Write notes on:

(10 x 5 = 50)

1. Classify diuretics and write a note on their sites of action.
2. Draw a neat labeled diagram of neuro-muscular junction and explain the events in neuro-muscular transmission.
3. Movements of small intestine.
4. Actions of Parathormone.
5. Juxta Glomerular apparatus.
6. Fibrinolytic system.
7. Functions of Glucocorticoid.
8. Endometrial changes in menstrual cycle.
9. Active transport across cell membrane.
10. Digestion and absorption of fat.

M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted from the Academic Year 2019-2020)
FIRST YEAR
PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: Three hours

Maximum : 100 Marks (80 Theory + 20MCQs)

Answer All Questions

I. Essay: **(2 x 15 = 30)**

1. Describe the function and regulation of Insulin .Add a note on diabetes mellitus.
2. Explain the sliding filament hypothesis. Add a note on isometric and isotonic muscle contractions.

II. Short Notes : **(10 x 5 = 50)**

1. Second messengers.
2. Types of lymphocytes and its functions.
3. Haemophilia.
4. Describe the phases of gastric juice secretion.
5. Functions of bile salts.
6. Renal Buffers.
7. Auto regulation of GFR.
8. Calcitriol.
9. Contraceptive methods for males.
10. Phases of Menstrual cycle.

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

[MBBS 0522]

MAY 2022

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2019-2020)

FIRST YEAR – SUPPLEMENTARY (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: Three hours

Maximum : 100 Marks (80 Theory + 20MCQs)

Answer All Questions

I. Essay:

(2 x 15 = 30)

1. Describe the digestion and absorption of fat in the digestive tract. Add a note on steatorrhea.
2. Mention the various phases of menstrual cycle. Correlate the ovarian changes with endometrial changes during the menstrual cycle.

II. Short Notes :

(10 x 5 = 50)

1. Inter cellular connections.
2. Types of polycythemia and complications due to this conditions.
3. Humoral immunity.
4. Transfusion reaction.
5. Molecular basis of action potential.
6. Plasticity of smooth muscle.
7. Peculiarities of renal blood flow.
8. Parathormone.
9. Patho-physiology of diabetes mellitus.
10. Barrier contraceptives.

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

[MBBS 0123]

JANUARY 2023

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2019-2020)

FIRST YEAR – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: Three hours

Maximum: 100 Marks (80 Theory + 20MCQs)

Answer All Questions

I. Essay:

(2 x 15 = 30)

1. Define Immunity. Classify different types of Immunity. Explain in detail the cell mediated Immunity. Add note on Natural Killer cells.
2. Describe how the countercurrent mechanism in the kidney operates to produce hypertonic urine? Add a note on Diabetes Insipidus.

II. Write Short Notes on:

(10 x 5 = 50)

1. Sodium Potassium ATPase pump.
2. Hemolytic anemia.
3. Glucose reabsorption in Nephron.
4. Explain the structure of smooth muscle and its properties.
5. Body Fluid Compartments.
6. Phases of gastric juice secretion.
7. Dietary fibre.
8. Neuroendocrine reflex.
9. Role of Vitamin D in calcium homeostasis.
10. Mechanism of action and functions of testosterone.

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

[MBBS 0323]

MARCH 2023

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2019-2020)

FIRST YEAR – SUPPLEMENTARY (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: Three hours

Maximum: 100 Marks (80 Theory + 20MCQs)

Answer All Questions

I. Essay:

(2 x 15 = 30)

1. Mention various steps of Hemostasis. Explain in detail how bleeding is arrested through intrinsic system of coagulation. Add a note on Hemophilia.
2. Name the different hormones secreted by Islets of Langerhans. Explain in detail about the chief hypoglycemic hormone. Enumerate the consequences of Insulin deficiency.

II. Write Short Notes on:

(10 x 5 = 50)

1. Primary active transport.
2. Indications and complications of blood transfusion.
3. Describe the structure of Sarcomere and the contractile proteins.
4. Myasthenia Gravis.
5. Explain the mechanism of gastric secretion.
6. Enterohepatic circulation.
7. Cushing syndrome.
8. Mechanism of ovulation.
9. Autoregulation of glomerular filtration rate and renal blood flow.
10. Transport characteristics of the late distal tubule and cortical collecting tubule.

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

[MBBS 1123]

NOVEMBER 2023

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION
(For the candidates admitted from the Academic Year 2019-2020)

FIRST YEAR – (CBME)
PAPER I – PHYSIOLOGY
Q.P. Code: 526053

Time: Three hours

Maximum: 100 Marks (80 Theory + 20MCQs)

Answer All Questions

I. Essay:

(2 x 15 = 30)

1. A 45 year old male patient complaints of epigastric pain for the past 3 days. History reveals taking on and off pain killers over the counter. What is your diagnosis? Illustrate the microscopic anatomy of Gastric glands. Explain in detail about the mechanism of Secretion of Hydrochloric Acid (HCl). Add a note on Acid Peptic Disease.
2. Describe the major ovarian processes that occur during the periovulatory period. Name three effects of estrogen on the reproductive tissue. List the indicators of ovulation. Discuss about precocious puberty.

II. Write Short notes on:

(10 x 5 = 50)

1. Feedback mechanisms maintaining homeostasis.
2. Classify various body fluid compartments. Explain fluid exchange and osmotic equilibrium between intracellular and extracellular fluid.
3. Megaloblastic anemia.
4. Erythroblastosis Fetalis.
5. Describe the structure of Sarcomere and the contractile proteins.
6. Defecation reflex.
7. Actions of the chief hypoglycemic hormone on the liver, skeletal muscle and adipose tissue.
8. Micturition reflex.
9. Write in brief about doctor – patient relationship.
10. Functions of Placenta.

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

[MBBS 0124]

JANUARY 2024

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2019-2020)

FIRST YEAR – SUPPLEMENTARY (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: Three hours

Maximum: 100 Marks (80 Theory + 20MCQs)

Answer All Questions

I. Essay: (2 x 15 = 30)

1. Explain the mechanism of clotting via intrinsic pathway. Differentiate between coagulation and bleeding disorders.
2. Describe the renal mechanism for excreting concentrated urine. Add a note on nephrogenic diabetes insipidus.

II. Short Notes: (10 x 5 = 50)

1. Intercellular communications.
2. Primary active transport.
3. Gastrin.
4. Functions of liver.
5. Write about importance of Empathy and Attitude in patient care.
6. Actions of cortisol.
7. Compare the metabolic actions of insulin and glucagon.
8. Milk ejection reflex.
9. Human Chorionic Gonadotropin (HCG).
10. Movements of small intestine.

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

[MBBS 0824]

AUGUST 2024

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2020 -2021 Onwards)

FIRST YEAR – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: Three hours

Maximum: 100 Marks (80 Theory + 20MCQs)

Answer All Questions

Add appropriate diagrams wherever necessary

I. Essay: (2 x 15 = 30)

(2+8+5)

1. Define Immunity. Describe in detail about cell mediated immunity.
Add a note on Autoimmunity.

(1+11+3)

2. 45 yr old man attended surgical OP with c/o passing bulky, frothy and foul-smelling stools.
 - a) Name the above condition,
 - b) Describe the composition and functions of Pancreatic juice.
 - c) Add a note on Acute Pancreatitis.

II. Write Short Notes on: (10 x 5 = 50)

1. How is the fluidity of blood maintained inside the blood vessel?
2. Enterohepatic circulation.
3. Sodium potassium ATPase pump.
4. Role of Indian Medical Graduate as a Communicator.
5. Tests for Ovulation.
6. What are mineralocorticoids? Add a note on Aldosterone escape.
7. Factors affecting Glomerular Filtration Rate.
8. Functions of Platelets.
9. Negative feedback mechanisms.
10. Functions of Posterior Pituitary hormones.

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

[MBBS 0924]

SEPTEMBER 2024

Sub. Code: 6053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2020 -2021 Onwards)

FIRST PROFESSIONAL – (CBME) - SUPPLEMENTARY

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: Three hours

Maximum: 100 Marks (80 Theory + 20MCQs)

Answer All Questions

Add appropriate diagrams wherever necessary

I. Essay:

(2 x 15 = 30)

(3+7+5)

1. Name the different blood group systems and their importance. Describe about ABO blood group. Add a note on transfusion reactions.

(10+5)

2. A 45-year-old female came to medical OP with complaints of lethargy, cold intolerance, weight gain and constipation. O/E, swelling in the neck region with facial puffiness were noted.

- a) What is the probable diagnosis?
- b) Discuss the synthesis and function of hormone involved.
- c) What is Cretinism?

II. Write Short Notes on:

(10 x 5 = 50)

1. Secondary Active transport.
2. Properties of smooth muscle.
3. Second stage of deglutition.
4. Exocrine functions of pancreas.
5. Glucose transporters.
6. Parathyroid hormone.
7. Foeto placental unit.
8. Neuro endocrine reflex.
9. Resting membrane potential.
10. Principles of communication.

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

[MBBS 0825]

AUGUST 2025

Sub. Code : 6053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2021 – 2022 to 2023 – 2024)

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: Three hours

Maximum: 100 Marks (80 Theory + 20MCQs)

Answer All Questions

Add appropriate diagrams wherever necessary

I. Essay: (2 x 15 = 30)

1. Enumerate the hormones of adrenal cortex. Describe the functions and regulation of Glucocorticoids. Add a note on Cushing's syndrome. (2+10+3)
2. a) Define Hemostasis. (2)
b) Describe the mechanism of Clotting. (10)
c) Add a note on Hemophilia. (3)

II. Write Short Notes on: (10 x 5 = 50)

1. Acromegaly.
2. Functions of placenta.
3. Phases of action potential.
4. Mechanism of action of insulin.
5. Renal function tests.
6. Synthesis and functions of hemoglobin.
7. Succus entericus.
8. Autoregulation of renal blood flow.
9. Defecation reflex.
10. Structure and functions of B- lymphocytes.

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

[MBBS 1025]

OCTOBER 2025

Sub. Code: 6053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2021 – 2022 to 2023 – 2024)

FIRST PROFESSIONAL – SUPPLEMENTARY (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: Three hours

Maximum: 100 Marks (80 Theory + 20MCQs)

Answer All Questions

Add appropriate diagrams wherever necessary

I. Essay:

(2 x 15 = 30)

(1+10+4)

1. A 30-year-old woman attended Medical OP with c/o easy fatigability, breathlessness on exertion and palpitations. Examination revealed pallor, spoon shaped nails and pedal edema.

- a) What is the most probable diagnosis?
- b) Describe the stages and factors regulating Erythropoiesis.
- c) Add a note on Polycythemia.

(4+6+5)

2. a) Enlist the hormones secreted by Anterior Pituitary.
b) Write in detail about functions of Growth hormone.
c) Add a note on Acromegaly.

II. Write Short Notes on:

(10 x 5 = 50)

- 1. Enteric Nervous system.
- 2. Local Hormones.
- 3. Placental hormones.
- 4. Functions of bile.
- 5. Movements of large intestine.
- 6. Artificial kidney.
- 7. What are the qualities of a good communicator?
- 8. Ovarian changes in menstrual cycle.
- 9. Role of Secretin in digestion.
- 10. Latch bridge mechanism.

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

[MBBS 0726]

JULY 2026

Sub. Code: 6053

M.B.B.S. DEGREE EXAMINATION

(For the candidates admitted from the Academic Year 2022 – 2023 & 2023 – 2024)

FIRST PROFESSIONAL – (CBME)

PAPER I – PHYSIOLOGY

Q.P. Code: 526053

Time: Three hours

Maximum: 100 Marks (80 Theory + 20MCQs)

Answer All Questions

Add appropriate diagrams wherever necessary

I. Essay: (2 x 15 = 30)

1. Classify Immunity? Explain the mechanism of cell mediated immunity. Add a note of autoimmunity. (5+5+5)
2. Define GFR, Describe the factors regulating GFR. Add a note on Artificial Kidney. (2+8+5)

II. Write Short Notes on: (10 x 5 = 50)

1. Jaundice and its types.
2. Role of platelet in haemostasis.
3. ABO Blood groups.
4. Movements of Small intestine.
5. Mechanism of Hydrochloric Acid secretion.
6. Cystometrogram.
7. Primary Active transport
8. Functions of Testosterone.
9. What is LH Surge? Write briefly about the indicators of ovulation.
10. Aldosterone escape.
