

**FIRST B.H.M.S. DEGREE EXAMINATION**  
(New Regulation – From 2015-2016 Batch onwards)

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Define blood. Explain in detail about the Erythropoiesis and the factors influencing it.
2. Define cardiac cycle. Explain about the various events of Cardiac cycle.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Phagocytosis.
2. Blood groups.
3. Properties of skeletal muscle.
4. Countercurrent mechanism.
5. Surfactants.
6. Lung volumes.
7. Valves of the heart.
8. Juxtaglomerular apparatus.
9. Functions of skin.
10. Homoeostasis.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Heart sounds.
2. Cyanosis.
3. Immunoglobulins.
4. Hypothermia.
5. Atonic bladder.
6. Functions of neutrophils.
7. Hemostasis.
8. Anticoagulants.
9. Myosin.
10. Functions of spleen.

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**FIRST B.H.M.S. DEGREE EXAMINATION - SUPPLEMENTARY**  
(New Regulation – From 2015-2016 Batch onwards)

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Define cardiac output. Explain the variations factors regulating the cardiac output.
2. Define Anaemia. Explain in detail about the classification of anaemia and give a note on megaloblastic anaemia.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Elecro Cardio Gram.
2. Respiratory centre.
3. Rennin - angiotensin mechanism.
4. Blood transfusion.
5. Renal failure.
6. Rh factor.
7. Clotting mechanism.
8. Oxygen dissociation curve.
9. Arterial pulse.
10. Plasma proteins.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Apnea.
2. Respiratory membrane.
3. Pulmonary edema.
4. Lysosomes.
5. Erythroblastosis fetalis.
6. Lymph.
7. Layers of skin.
8. SA Node.
9. Bainbridge reflex.
10. Thrombosis.

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**FIRST B.H.M.S. DEGREE EXAMINATION**  
(New Regulation – From 2015-2016 Batch onwards)

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. What is Spirometer, explain in detail about the different volumes and capacities of lung?
2. Define Heart rate and its variations and mechanism of regulation of heart rate.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Plasma proteins.
2. Surfactant.
3. Juxtaglomerular apparatus.
4. Basal Metabolic Rate.
5. Caisson's disease.
6. Erythroblastosis fetalis.
7. Organ of Corti.
8. ABO blood groups.
9. Renal failure.
10. Structure of skin.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. SCUBA.
2. Lysosomes.
3. Tight junction.
4. Wallerian degeneration.
5. Arterial pulse.
6. Erythrocyte Sedimentation Rate.
7. Hypothermia.
8. Webbers test.
9. Specific dynamic action.
10. Types of antibodies.

**FIRST B.H.M.S. DEGREE EXAMINATION  
(Supplementary Examination)**

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Write in detail about regulation of respiration and mechanism of respiration.
2. Define Juxtra glomerular apparatus, explain about the structure and function of Juxtra glomerular apparatus.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Blood groups.
2. Natural killer cell.
3. Counter current multiplier.
4. Neuro – muscular junction.
5. Surface tension.
6. Renal Function Test.
7. Structure of skin.
8. Micturation.
9. Heart block.
10. Electro Cardio Gram.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Anticoagulants.
2. Organ of Corti.
3. Pacemaker.
4. DNA.
5. Lymph.
6. Tidal volume.
7. Nerve of emptying.
8. Cyanosis.
9. Rigor mortis.
10. Immunoglobulins.

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[LL 1504]

OCTOBER 2017

Sub. Code: 1504

**FIRST B.H.M.S. DEGREE EXAMINATION**  
(New Regulation – From 2015-2016 Batch onwards)

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Define Erythropoiesis. List the different stages of Erythropoiesis and explain in detail.
2. Define cardiac cycle. Explain various events during each cardiac cycle.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Spirometry.
2. Micturition reflex.
3. Erythroblastosis Foetalis.
4. Peculiarities of renal circulation.
5. Functions of spleen.
6. Surfactant
7. Colour blindness.
8. Artificial respiration.
9. Lymph - its composition and function.
10. Homeostasis.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Nitrogen Narcosis.
2. Pneumothorax.
3. Name the respiratory centres.
4. Acidosis.
5. Bence Jones protein.
6. Hypothermia.
7. Cyanosis.
8. Lymph.
9. Deoxyribo Nuclie acid.
10. Thrombocytopenic Purpura.

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**FIRST B.H.M.S. DEGREE EXAMINATION  
(Supplementary Examination)**

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Give the definition and normal values of lung volumes and lung capacities and explain the measurement of the same.
2. Define arterial Blood Pressure. Describe the nervous regulation of arterial Blood Pressure.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Define Cardiac output and Measurement of C.O. using Fick's Principle.
2. Heart sounds.
3. Sliding Theory of Muscular Contraction.
4. Diffusion.
5. Cell mediated immunity.
6. ECG.
7. Erythropoiesis.
8. Oxygen – Hemoglobin dissociation Curve.
9. Juxta Glomerular Apparatus.
10. Regulation of Body Temperature.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Sodium – Potassium pump.
2. Bainbridge Reflex.
3. Lifespan of RBCS with its fate.
4. Hering – Breuer Reflex.
5. Functions of WBC's.
6. Latent period.
7. Counter – Current Exchanger.
8. Stokes – Adams syndrome.
9. Motor Unit.
10. Dialysis.

**FIRST B.H.M.S. DEGREE EXAMINATION**  
(New Regulation – From 2015-2016 Batch onwards)

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Explain in detail about Hematopoiesis. Mention the factors necessary for the same.
2. Explain mechanism of respiration and explains ventilation and transport of respiratory gases.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Spirometer.
2. Functions of spleen.
3. Surfactants.
4. Structure and functions of skin.
5. Micturition reflex.
6. Transport across the cell membrane.
7. Caisson's Disease.
8. Plasma proteins.
9. Blood Transfusion.
10. Glomerular filtration rate.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Platelets.
2. Myosin.
3. Cyanosis.
4. Define pulse.
5. Tissue macrophages.
6. Weber's test.
7. Megaloblastic anemia.
8. Renal threshold.
9. Heart sounds.
10. Respiratory membrane.

[LN 1504]

OCTOBER 2018

Sub. Code: 1504

**FIRST B.H.M.S. DEGREE EXAMINATION**  
(New Regulation – From 2015-2016 Batch onwards)

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Describe about the process of formation of urine.
2. Write an essay about heart sounds.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Functions of Plasma Proteins.
2. Functions of Reticulo-Endothelial system.
3. Basal metabolic Rate.
4. Radial pulse.
5. Hypoxia.
6. ABO blood groups.
7. Lewis triple response.
8. Iron deficiency anemia.
9. Periodic breathing.
10. Nephron and its functions.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Innate immunity.
2. Sweat gland.
3. AV Node.
4. All or None law.
5. Define thrombosis.
6. Balanced diet.
7. Astigmatism.
8. Heart block.
9. SCUBA.
10. ESR.

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[LP 1504]

OCTOBER 2019

Sub. Code: 1504

**FIRST B.H.M.S. DEGREE EXAMINATION**  
(New Regulation – From 2015-2016 Batch onwards)

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Define Anaemia and explain in detail about Haemolytic anaemia.
2. Define Glomerular filtration rate and explain in detail.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Layers of the skin.
2. Conductive systems of Heart.
3. Rh factor.
4. Phagocytosis.
5. Basal metabolic rate.
6. Properties of Cardiac Muscle.
7. Blood Volumes.
8. Oxygen dissociation curve.
9. Mechanics of Breathing.
10. Functions of Endoplasmic Reticulum.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Thrombocytopenia.
2. Myosin.
3. Plasma.
4. Functions of Spleen.
5. Diapedesis.
6. Membrane transport.
7. Surfactants.
8. Pulmonary Hypertension.
9. Define Haematopoiesis.
10. Different types of Pulse.

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[LP 1504]

DECEMBER 2019

Sub. Code: 1504

**FIRST B.H.M.S. DEGREE EXAMINATION**

**(Supplementary)**

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three Hours**

**Maximum : 100 Marks**

**Answer All questions**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Define Coagulation. Explain in detail different pathways of coagulation.
2. Describe in detail about Carbon dioxide dissociation curve and its variations.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Lung function test.
2. Artificial Kidney.
3. Excitation contraction coupling.
4. Erythropoiesis.
5. Functions of Platelets.
6. Counter current mechanism.
7. Formation of Urine.
8. Hyperthermia and Hypothermia.
9. Regulation of Blood Pressure.
10. Nitrogen Narcosis.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Sneezing Reflex.
2. Contractile Proteins.
3. Bone Marrow.
4. Reticulocytosis.
5. Pneumothorax.
6. Blood Groupings.
7. Lymphocytes.
8. Renal Failure.
9. Electro Cardiogram.
10. Cardiac Muscle.

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

**[BHMS 0921]**

**SEPTEMBER 2021  
(OCTOBER 2020 EXAM SESSION)**

**Sub. Code: 1504**

**FIRST B.H.M.S. DEGREE COURSE  
PAPER IV – PHYSIOLOGY - I  
*Q.P. Code : 581504***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Define Coagulation of Blood. Name the clotting factors and the mechanisms involved in Coagulation of Blood.
2. Explain the mechanism of Micturition.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Name the plasma proteins, normal values and its functions.
2. What is hypoxia? Types of hypoxia, its causes and effects.
3. Anticoagulants.
4. Briefly explain the events of cardiac cycle.
5. Surfactant-composition, functions and deficiency manifestations.
6. Structure and functions of Sarcotubular system.
7. Factors essential for Erythropoiesis.
8. Explain the nervous regulation of respiration.
9. Factors affecting cardiac output.
10. Peculiarities of renal circulation.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Dialysis.
2. Marey's reflex.
3. Periodic breathing.
4. Peripheral pulses.
5. Vital capacity.
6. Zona occludens.
7. Normal human body temperature.
8. Countercurrent exchanger.
9. Sickle cell anemia.
10. Plasma membrane.

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

**[BHMS 0222]**

**FEBRUARY 2022  
(DECEMBER 2020 EXAM SESSION)**

**Sub. Code: 1504**

**B.H.M.S. DEGREE EXAMINATION  
FIRST YEAR (New Regulations – from 2015-2016 batch onwards)  
PAPER IV – PHYSIOLOGY - I  
*Q.P. Code : 581504***

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

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

1. Define Cardiac output. Write in detail about the factors maintaining cardiac output and its variations.
2. Explain the Pulmonary function tests and its measurement using spirometer.

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

1. Artificial respiration.
2. Define Anemia. Classify anemia and add a note on iron deficiency anemia.
3. Functions of WBC.
4. Caisson's disease.
5. What are the factors affecting GFR?
6. Fate of RBC.
7. Renal function tests.
8. Properties of cardiac muscle.
9. Name the clotting factors involved in coagulation of blood. Add a note on bleeding disorders.
10. Define Micturition, explain briefly the Micturition reflex.

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

1. Types of nephrons.
2. Physiological importance of surface tension.
3. Immunoglobulins.
4. Pacemaker.
5. Significance of ESR.
6. Polycythemia.
7. Sarcolemma.
8. Auscultatory areas of heart.
9. Sex chromosomes.
10. Water reabsorption from renal tubules.

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

**[BHMS 0522]**

**MAY 2022**

**Sub. Code: 1504**

**(OCTOBER 2021 EXAM SESSION)**

**B.H.M.S. DEGREE EXAMINATION**

**FIRST YEAR (New Regulations – from 2015-2016 batch onwards)**

**PAPER IV – PHYSIOLOGY - I**

*Q.P. Code : 581504*

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Name the centers of respiration. Explain Neural Regulation of Respiration.
2. Define CARDIAC CYCLE. EXPLAIN in detail about Mechanical and electrical events of Cardiac Cycle.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Lung Volumes and Capacities.
2. Genetic Control of Protein synthesis.
3. Rh incompatibility.
4. Long term regulation of ARTERIAL BLOOD PRESSURE.
5. Juxta – glomerular apparatus.
6. Neuromuscular Transmission.
7. Mountain sickness.
8. Functions of Reticuloendothelial System.
9. Leukopoiesis.
10. Hemostasis.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Edema.
2. Thromboembolism.
3. Cyanosis.
4. Spirometry.
5. GFR.
6. Diuretics.
7. Heat Stroke.
8. Contractile Proteins of muscle.
9. Bohr Effect.
10. Tissue Macrophages.

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

**[BHMS 0922]**

**SEPTEMBER 2022  
(DECEMBER 2021 EXAM SESSION)**

**Sub. Code: 1504**

**B.H.M.S. DEGREE EXAMINATION  
FIRST YEAR - SUPPLEMENTARY  
(New Regulations – from 2015-2016 batch onwards)  
PAPER IV – PHYSIOLOGY – I**

*Q.P. Code : 581504*

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Define Arterial blood pressure. What are the determinants of Arterial blood pressure? Explain the renal regulation of blood pressure.
2. Define erythropoiesis. List the different stages of Erythropoiesis, changes during each stage and factors essential for it.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Leads and waves of electrocardiogram (ECG).
2. Structure of juxtaglomerular apparatus and its functions.
3. Neuromuscular transmission.
4. Conducting system of heart.
5. Erythroblastosis foetalis.
6. Lung volume and capacities.
7. Mechanism of concentration of urine.
8. Causes, symptoms and prevention of decompression sickness.
9. Chemical mechanism of regulation of respiration.
10. Define Glomerular filtration rate .What are the pressures determining and factors regulating GFR?

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Hemoglobin.
2. Antibody.
3. Dead space.
4. Oedema.
5. Micturition.
6. Bain bridge reflex.
7. Nephron.
8. Tidal volume.
9. Immunity.
10. Lewis triple response.

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

**[BHMS 0323]**

**MARCH 2023  
(OCTOBER 2022 EXAM SESSION)**

**Sub. Code: 1504**

**B.H.M.S. DEGREE EXAMINATION  
FIRST YEAR  
(New Regulations – from 2015-2016 batch onwards)  
PAPER IV – PHYSIOLOGY – I**

*Q.P. Code : 581504*

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Explain physiological characteristics of Cardiac Muscle. Add detailed note about Action potential.
2. Explain urine formation by kidneys.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Jaundice.
2. Types of edema and its causes.
3. Heart SOUNDS.
4. Hypoxia.
5. Renal Regulation of Acid – base balance.
6. Mechanism of breathing.
7. ECG.
8. Blood Transfusion.
9. Respiratory protective reflexes.
10. Cardiac Murmurs.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Translation.
2. Hypertrophy.
3. Thrombocytopenia.
4. QRS Complex.
5. Respiratory membrane.
6. Renal Glycosuria.
7. Frostbite.
8. Pulmonary Edema.
9. Lymph.
10. Arrhythmia.

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

**[BHMS 0523]**

**MAY 2023**

**Sub. Code: 1504**

**(DECEMBER 2022 EXAM SESSION)**

**B.H.M.S. DEGREE EXAMINATION  
FIRST YEAR - SUPPLEMENTARY  
(New Regulations – from 2015-2016 batch onwards)  
PAPER IV – PHYSIOLOGY – I**

*Q.P. Code: 581504*

**Time: Three hours**

**Answer ALL Questions**

**Maximum: 100 Marks**

**I. Essay Questions:**

**(2 x 15 = 30)**

1. Define Blood. Explain in detail about the Erythropoiesis and the factors influencing it.
2. Explain the mechanism of respiration and explain ventilation and transport of respiratory gases.

**II. Write Notes on:**

**(10 x 5 = 50)**

1. Micturition.
2. Heart block.
3. Regulation of body temperature.
4. Coagulation cascade.
5. Functions of Spleen.
6. ABO blood groups.
7. Electro Cardio Gram.
8. Juxta glomerular Apparatus.
9. Spirometry.
10. Mechanism of Respiration.

**III. Short Answers on:**

**(10 x 2 = 20)**

1. Bence – Jones Protein.
2. Organ of Corti.
3. Immunoglobulin.
4. Pneumothorax.
5. Dialysis.
6. All or None law.
7. Surfactant.
8. Lymph.
9. Bohr Effect.
10. Cyanosis.

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