[KD 503] **Sub. Code : 4003**

FIRST M.B.B.S. DEGREE EXAMINATION.

(Non Semester)

(Revised Regulations)

Paper IV — PHYSIOLOGY INCLUDING BIO-PHYSICS — II

Time : Three hours — Maximum : 50 marks

Two and a half hours for Theory and 30 minutes for MCQ — Theory : 35 marks; MCQ : 15 marks

MCQ must be answered separately on the answer sheet provided.

1. Write briefly the arrangement of tracts in the internal capsule. Mention the effects if there is a lesion at the internal capsule. (5 + 5 = 10)

2. Write briefly on : (10 × 2.5 = 25)

   (a) Cyanosis

   (b) Near response

   (c) Otolith organs

   (d) Jugular Pulse

   (e) P–R interval

   (f) Cheyne–Stokes respiration

   (g) Buffer nerves

   (h) Dyspnoeic index

   (i) Nystagmus

   (j) Cushing's reflex.

[KD 503 A] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

Non–Semester

(Revised Regulations)

Paper IV — PHYSIOLOGY INCLUDING BIOPHYSICS — II

Time : Three hours — Maximum : 100 marks

Two and a half hours for Theory — Theory : 70 marks

MCQ : 30 minutes — MCQ : 30 marks

MCQ must be answered separately on the answer sheet provided as per the instructions on the first page.

Draw labelled diagrams wherever necessary.

Answer ALL questions.

1. What is hypoxia? Explain the different types of hypoxia with examples. Add a note on acclimatization at high altitudes. (15)

2. Write short notes on : (4 × 5 = 20)
   (a) Cardiac catheterization
   (b) P–R interval
   (c) Periodic breathing
   (d) O_2–Hb dissociation curve.

3. Describe the various nuclei, connections and functions of the thalamus. Add a note on thalamic syndrome. (15)

4. Write short notes on : (4 × 5 = 20)
   (a) Attenuation reflex
   (b) Macula Lutea
   (c) Composition and Functions of the CSF
   (d) Taste pathway.

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[KE 503 A] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

(Non–Semester — Revised Regulations)

Paper IV — PHYSIOLOGY INCLUDING BIO–PHYSICS — II

Time : Three hours Maximum : 100 marks

Theory : Two and a half hours Theory : 70 marks

M.C.Q. : Half an hour M.C.Q. : 30 marks

MCQ must be answered separately on the answer sheet provided as per the instructions on the first page.

Draw labelled diagrams wherever necessary.

Answer ALL questions.

1. Using pressure tracings describe the left atrial and left ventricular events in a cardiac cycle. Mention a method of recording intraventricular pressure. (15)

2. Write short notes on : (4 × 5 = 20)

(a) Role of chemoreceptors in regulation of respiration.

(b) Voluntary hyperventilation.

(c) Arterial baroreceptors.

(d) Dark adaptation.

3. Describe the connections and functions of basal ganglia and add a note on effects of lesion of basal ganglia. (15)

4. Write short notes on : (4 × 5 = 20)

(a) Mechanism of stimulation of taste buds.

(b) The travelling wave theory.

(c) The basis of night blindness and colour blindness.

(d) Sensory receptors.

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[KG 503 A] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

(Non–Semester)

(Revised Regulations)

Paper IV — PHYSIOLOGY INCLUDING BIO–PHYSICS — II

Time : Three hours Maximum : 100 marks

Theory : Two and a half hours Theory : 70 marks

M.C.Q. : Half an hour M.C.Q. : 30 marks

MCQ must be answered separately on the answer sheet provided as per the instructions on the first page.

Draw labelled diagrams wherever necessary.

Answer ALL questions.

1. Describe the chemical regulation of respiration.(15)

2. Write short notes on : (4 × 5 = 20)
   (a) Short term regulation of B.P.
   (b) Coronary circulation.
   (c) Factors regulating cardiac output.
   (d) ECG.

3. Describe the pathway for fine touch. Add a note on sensory homoniculus. (15)

4. Write short notes on : (4 × 5 = 20)
   (a) Dark adaptation.
   (b) Organ of corti.
   (c) Errors of refraction.
   (d) Taste pathway.

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[KH 503 A] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

(Non–Semester)

(Revised Regulations)

Paper IV — PHYSIOLOGY INCLUDING BIO–PHYSICS — II

Time : Three hours Maximum : 100 marks

Theory : Two and a half hours Theory : 70 marks

M.C.Q. : Half an hour M.C.Q. : 30 marks

M.C.Q. must be answered SEPARATELY on the answer sheet provided as per the instructions on the first page.

Draw labelled diagrams wherever necessary.

Answer ALL questions.

1. Describe the nervous regulation of respiration. Add a note on Herring Brewer reflex. (15)

2. Write short notes on : (4 × 5 = 20)

   (a) Sino aortic mechanism.

   (b) Cerebral circulation.

   (c) ECG, in limb lead II.

   (d) Factors influencing heart rate.

3. Describe the pain pathway. Add a note on thalamic syndrome. (15)

4. Write short notes on : (4 × 5 = 20)

   (a) Visual acuity.

   (b) Basilar membrane.

   (c) Colour blindness.

   (d) Accommodation for near vision.

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[KJ 503] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

(Non–Semester)

(Revised Regulations)

Paper IV — PHYSIOLOGY INCLUDING BIO–PHYSICS – II

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Draw suitable diagrams wherever necessary.

Answer ALL questions.

I. Write an essay on the following :

(1) Define Blood pressure. Give the normal values. Describe the 'Baroreceptor mechanism' for regulation of Blood pressure. (15)

(2) Explain the role of vestibular apparatus in posture and equilibrium. Add a note on Meniere's syndrome. (15)

II. Write short notes on : (10 × 5 = 50)

(a) Accommodation for near vision.

(b) Visceral pain.

(c) Sensory cortex.

(d) Total peripheral resistance in vascular system.

(e) Acclimatisation at high attitude.

(f) Compliance of lungs.

(g) Functions of middle ear.

(h) Associative learning.

(i) Righting Reflexes.

(j) Control of food intake.

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[KL 503] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

(Non-Semester)

(Revised Regulations)

Paper IV — PHYSIOLOGY INCLUDING BIO-PHYSICS — II

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Write an essay on the following : (2 × 15 = 30)

(1) Describe the mechanism of oxygen transport in the body. Explain oxygen dissociation curve with a suitable diagram. (15)

(2) Draw and explain the visual pathway. Discuss the effects of lesions at various levels along its course. (15)

II. Write short notes on : (10 × 5 = 50)

(a) Respiratory changes during moderate exercise.

(b) Describe the origin and spread of cardiac impulse.

(c) Foetal circulation.

(d) Refractory errors of the eye.

(e) Cochlea.

(f) Neuroglia.

(g) Discuss the functions of limbic system.

(h) Mechanism of memory.

(i) Describe the humoral regulation of blood pressure.

(j) Artificial respiration.

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[KM 503] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

(Non–Semester)

(Revised Regulations)

Paper IV — PHYSIOLOGY INCLUDING BIO-PHYSICS — II

Time : Three hours | Maximum : 100 marks

Theory : Two hours and forty minutes | Theory : 80 marks

M.C.Q. : Twenty minutes | M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Write Essay on the following : (2 × 15 = 30)

(1) Define cardiac cycle. Describe the pressure changes in the left ventricle, left atrium and aorta during cardiac cycle. What is second heart sound? (2 + 10 + 3)

(2) What is stretch reflex? Describe in detail the structure and functions of muscle spindle. Add a note on reciprocal inhibition. (2 + 5 + 5 + 3)

II. Write short notes on : (10 × 5 = 50)

(a) Regulation of coronary blood flow

(b) Hypoxic hypoxia

(c) Decompression sickness

(d) Definition and measurement of functional residual capacity

(e) Role of hypothalamus on hunger perception

(f) Mechanism of accommodation for near vision

(g) Structure and functions of middle ear

(h) Taste pathways

(i) Chloride shift

(j) Stages of Asphyxia.

[KN 503] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

(Non-Semester)

(Revised Regulations)

Paper IV — PHYSIOLOGY INCLUDING BIO-PHYSICS — II

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Write Essay on the following: (2 × 15 = 30)

(1) What are chemoreceptors. Describe the chemical control of Respiration. Add a note on cheyne-stokes breathing.

(2) What are Otolith organs? Explain their mechanism of action and the physiological function.

II. Write Short notes on : (10 × 5 = 50)

(a) Myesthenia Gravis.

(b) Pacemaker potential.

(c) Maximum Breathing capacity.

(d) Parkinson's disease.

(e) Draw an ECG. Mention the couse of each wave.

(f) Excitation-Secretion coupling.

(g) Dark adaptation.

(h) Colour Vision.

(i) Basal ganglia.

(j) Endorphins.

[KO 503] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

Revised (Non Semester) Regulations

Paper IV — PHYSIOLOGY INCLUDING BIOPHYSICS – II

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL the questions.

Draw suitable diagrams wherever necessary.

I. Write Essay on the following : (2 × 15 = 30)

(1) Define Blood pressure. Give normal value. Describe regulation of blood pressure.

(2) Describe connections and functions of cerebellum.

II. Short notes on : (10 × 5 = 50)

(a) Spiro gram.

(b) Dysbarism.

(c) Hypoxia.

(d) Heart sounds.

(e) Triple response.

(f) Berger's rhythm.

(g) Decerebrate rigidity.

(h) Errors of refraction.

(i) Aqueous humor.

(j) Cochlear micro phonic potential.

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August 2006

[KP 503] **Sub. Code: 4053**

FIRST M.B.B.S. DEGREE EXAMINATION.

Revised (Non-Semester) Regulations

Paper IV – PHYSIOLOGY INCLUDING BIOPHYSICS – II

Q.P. Code:524054

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer **ALL** questions.

Draw suitable diagrams wherever necessary.

I. Essay questions :

1. Define Cardiac cycle. Describe the pressure and volume changes in the left ventricle during cardiac cycle with a suitable graph. (20)
2. Name all the descending tracts. Describe the corticospinal tract and mention the differences between UMN and LMN lesions.
3. Discuss the mechanics of pulmonary ventilation.

II. Short notes : **(6 x 5 = 30)**

(a) Conducting system of the heart.

(b) Referred pain and its theories.

(c) EEG changes during sleep.

(d) Excitation contraction coupling in skeletal muscle.

(e) Classification of sensory receptors and their properties.

(f) Clinical classification of reflexes with examples and their significance.

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[KQ 503] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

Revised (Non–Semester) Regulation

Paper IV — PHYSIOLOGY INCLUDING BIOPHYSICS – II

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Write Essay on the following :

(1) Describe a normal ECG recorded from standard Limb lead and Explain how each wave is produced? Describe ECG changes in abnormal conditions. (20)

(2) Describe the connections and functions of Basal Ganglia in detail. Explain the clinical disorders and physiological basis of management. (15)

(3) Describe the various refractive errors of the eye. Explain the physiological basis of their correction. (15)

II. Short notes : (6 × 5 = 30)

(a) Neural regulation of respiration.

(b) Hypoxia.

(c) Excitation–Contraction coupling.

(d) Functions of middle ear.

(e) Functions of Parietal lobe.

(f) Functions of Thalamus.

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[KR 503] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

Revised (Non-Semester) Regulation

Paper IV — PHYSIOLOGY INCLUDING BIOPHYSICS – II

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary

Write essay on the following :

1. Classify Hypoxia, what are the causes and features of each type? What types respond best to oxygen therapy. (15)

2. Draw and label the visual pathway. What are the effects of lesions at various levels of pathway. (15)

3. Short notes : (10 × 5 = 50)

(a) Korotkov sounds

(b) Heart sounds

(c) Timed vital capacity

(d) Oxygen dissociation curve

(e) Non-Respiratory function of lung

(f) ECG leads

(g) Baro-receptors.

(h) Colour blindness

(i) Parkinsonism

(j) Middle ear

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FEBRUARY 2008

[KS 503] **Sub. Code : 4054**

FIRST M.B.B.S. DEGREE EXAMINATION.

(Revised (Non-Semester) Regulation)

Paper IV — PHYSIOLOGY INCLUDING BIOPHYSICS — II

Q.P. Code : 524054

Time : Three hours Maximum : 100 marks

Theory : Two hours and forty minutes Theory : 80 marks

M.C.Q. : Twenty minutes M.C.Q.: 20 marks

Draw suitable diagrams wherever necessary.

Answer ALL questions.

Essays :

1. Name the functional lobes of cerebellum. Describe the connections and functions of neocerebellum. Mention the clinical features of cerebellar disease. (15)

2. Write about the functions of hypothalamus. (15)

3. Short notes : (10 × 5 = 50)

(a) Travelling wave theory.

(b) Electroencephalogram.

(c) Reynolds number.

(d) Plasticity of smooth muscle.

(e) Decompression sickness.

(f) Brown sequard syndrome.

(g) Conditioned reflex.

(h) Heart Failure.

(i) Refractive errors.

(j) Differences between three types of muscle (skeletal, cardiac and smooth)

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