

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - January 2008

Time: 3 Hrs.

[Max. Marks: 100]

18

PHYSIOLOGY - PAPER II (Revised Scheme)

QP Code: 1054

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Name the cells in the anterior pituitary gland and describe the functions of growth hormone
2. Describe the Nuclei and functions of reticular formation

SHORT ESSAY

10 X 5 = 50 Marks

3. What is Tetany? Describe signs of latent tetany
4. Explain the refractory periods in skeletal muscle
5. Name the properties of smooth muscle. How do you explain the semi rhythmicity in smooth muscle?
6. Explain the heat loss mechanisms to maintain constant body temperature
7. What is hypothermia and what is the clinical importance of induced hypothermia?
8. Name Cerebellar Nuclei. How is dentate nucleus is connected to motor area of cerebral cortex?
9. Trace the pathway of Rubro spinal tract and write its function
10. Enumerate the structures that form Basal ganglia. Describe their functions
11. What is Rombergs sign and in what diseases this sign is positive?
12. Name the superficial reflexes. What are the physiological conditions in which Babiniski's sign is positive?

SHORT ANSWERS

16 X 2 = 32 Marks

13. What are pendular movements? In which condition does it take place?
14. What lesions produce patellar clonus and ankle clonus?
15. What are the complications of hyper para thyroidism?
16. What are the functions of Testosterone?
17. What is cryptorchidism and how it is corrected?
18. What are the structures that produce human chorionic gonadotropius (H.C.G) and mention the functions of H.C.G
19. What is Turner's syndrome and how it is differentiated from Kline-felters syndrome?
20. What is Diabetes insipidus and what lesions produce this disease?
21. Define Chronaxie and Rheobase?
22. What are fibrillations and fasciculations? How are these recorded?
23. What is Hemiplegia and involvement of which motor tract leads to Hemiplegia?
24. What is Aphasia? Classify Aphasias
25. What is Aguessia? Trace the pathway of taste upto the taste centre?
26. Write briefly the structures in the middle ear. How it is connected to Nasopharynx and what is it's importance?
27. Name the visual receptors. What are the functions of these receptors?
28. List the changes in the eye balls during accommodation reaction for near vision

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M.B.B.S. PHASE - I Degree Examination - January 2008

19

Time: 3 Hrs.

[Max. Marks: 90]

PHYSIOLOGY - PAPER II (Old Scheme)

QP Code: 1004

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Enumerate the Hormones secreted by Adrenal cortex. Describe the actions of Glucocorticoids. Add a note on Cushing's syndrome.
2. Define reflex action. Give different types of classifications of reflexes. Describe four important properties of reflexes.

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the Synthesis of Thyroxine. Describe the clinical features of Hypothyroidism.
4. Describe the actions of Testosterone.
5. Describe Spermatogenesis and factors affecting it.
6. What is referred pain? Give two examples. Describe the theories of referred pain.
7. Enumerate the functions of Hypothalamus. Describe the role of Hypothalamus in food intake.
8. Describe the stages of complete transection of spinal cord.
9. Describe with a neat diagram Olfactory pathway.
10. Describe the mechanism of light and dark adaptation.
11. Describe the mechanism of accommodation. Draw and label accommodation pathway.
12. Enumerate the ways by which heat is lost from the body. Describe the response of the body on exposure to cold.

SHORT ANSWERS

10 X 2 = 20 Marks

13. Signs of Tetany.
14. Diabetes insipidus.
15. Milk ejection reflex.
16. Weber Fechner's law.
17. Enumerate the functions of Prefrontal Lobe.
18. Differences between REM and NREM sleep.
19. Differences between upper and lower motor Neuron lesion.
20. Attenuation reflex.
21. Functions of Auditory Tube.
22. Core and Shell Temperature.

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Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - January 2008

90

Time : 3 Hrs.

[Max. Marks : 100]

PHYSIOLOGY - Paper II (Revised Scheme II)

QP Code: 1078

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. With the help of suitable diagrams, describe the mechanisms of action of hormones through different system of second messengers
2. List the features of cerebellar disorder. Describe the role of cerebellum in the control of motor functions

SHORT ESSAY

10 X 5 = 50 Marks

3. Hypothalamo-pituitary-gonadal axis in females
4. Cardiovascular and CNS effects of thyroxine
5. Molecular basis of skeletal muscle contraction
6. Endogenous pain inhibiting system
7. Role of hypothalamus in temperature regulation
8. Hearing tests
9. Renin-angiotensin-aldosterone axis
10. Concept of cerebral dominance (categorization of hemisphere)
11. Immediate cardiovascular changes on exposure to hot climate
12. Errors of refraction

SHORT ANSWERS

10 X 3 = 30 Marks

13. Tests for ovulation
14. Waves of EEG
15. Dermatomal theory of referred pain
16. Effects of insulin on glucose transporters
17. Physiological basis of use of a drug in the treatment of thyrotoxicosis
18. Distal changes in the axon following nerve injury
19. Physiological basis of three features of Addison's disease
20. Rinne's test
21. Explain, why cortisol is not advised in patients with osteoporosis
22. Dissociated anesthesia

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Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - January 2008

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Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - Paper I (Revised Scheme II)

QP Code: 1077

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Define Blood Pressure, mean arterial pressure and pulse pressure. Discuss the long term regulatory mechanisms of blood pressure
2. Discuss the mechanism of formation of concentrated urine. Add a note on diuresis

SHORT ESSAY

10 X 5 = 50 Marks

3. Enumerate various transport mechanisms across cell membrane. Explain active transport
4. Tabulate the differences between first and second heart sounds. Add a note on splitting of II heart sound
5. What is Asphyxia? Explain its features
6. Discuss the enterohepatic circulation of bile. Explain its significance
7. Explain the significance of Rh factor
8. Explain the role of platelets in haemostasis
9. List the types of movements seen in intestine
10. Define and give examples of ventilation perfusion ratio
11. Define periodic breathing, and explain its occurrence in various diseases
12. Depict the pressure volume relationship in the urinary bladder

SHORT ANSWERS

10 X 3 = 30 Marks

13. Why is blood clotting abnormal in patients with vitamin K deficiency?
14. Draw and label ECG tracing in lead II
15. Enumerate the factors governing oxygen consumption by the heart
16. Explain acquired immunity
17. What is Apoptosis?
18. Why is renal medulla very susceptible to hypoxic damage?
19. What is Obligatory Reabsorption
20. What is megacolon?
21. What is a cholagogue and cholaretic? Give examples
22. Name two bleeding disorders. What is von Willebrand's factor?

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M.B.B.S. PHASE - I Degree Examination - January 2008

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (Revised Scheme)

QP Code: 1053

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Give the composition of gastric secretion. Describe various phases and regulation of gastric secretion
2. Enumerate coagulation factors. Describe the intrinsic and extrinsic mechanism of coagulation

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the different phases of deglutition
4. Give the composition, synthesis and functions of bile salts
5. Describe the mechanism of humoral immunity
6. Enumerate the properties of cardiac muscle. Explain importance of the long refractory period
7. Define Edema. Describe mechanism of Edema
8. Enumerate renal function tests. How is renal blood flow measured?
9. Explain Hering Breuer inflation reflex. What is its importance?
10. Explain non respiratory functions of lungs
11. Enumerate the causes of metabolic acidosis. How is it corrected?
12. Describe the mechanism of reabsorption of glucose in renal tubule. Give normal values of renal threshold and tubular transport maximum for glucose

SHORT ANSWERS

16 X 2 = 32 Marks

13. Enumerate various cell organelles. Give their functions
14. What is Homeostatis? Describe positive feed back mechanism with suitable examples
15. Enumerate the stages of Erythropoiesis. Describe the fate of RBC
16. Describe the various functions of plasma proteins
17. Describe Hemophilia
18. Explain the functions of Windkessel vessels
19. Explain the causes of heart sounds
20. Define Hypoxia. Explain histotoxic hypoxia
21. Draw and label different lung volumes and capacities
22. Explain factors affecting airway resistance
23. What are the functions of large intestine?
24. Describe regulation of salivary secretion
25. Draw and label innervation of urinary bladder
26. Explain urea clearance test
27. Explain Bicarbonate reabsorption in proximal tubule
28. Explain functions of gastric mucosa

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M.B.B.S. PHASE - I Degree Examination - January 2008

23

Time: 3 Hrs.

[Max. Marks: 90]

PHYSIOLOGY - PAPER I (Old Scheme)

QP Code: 1003

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Explain the basis for the classification of blood groups. Describe the Rh blood group system with its importance
2. Explain the role of arterial baroreceptors after blood loss

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe Haemophilia
4. Outline the effects of severe mismatched blood transfusions
5. Describe the transmission of impulses in myelinated nerve fibres
6. Define deglutition. Describe the stages of deglutition with their regulation
7. Draw and label a normal ECG from lead II. Give the duration and basis of P-R interval
8. Describe the actions of testosterone
9. Define glomerular filtration rate and describe the factors affecting it
10. Explain the molecular basis of muscle contraction
11. Describe the factors affecting coronary circulation
12. Describe oxygen dissociation curve and factors affecting it

SHORT ANSWERS

10 X 2 = 20 Marks

13. List the functions of plasma albumin
14. What is meant by triple response?
15. Anatomical and physiological dead space
16. Define simple diffusion and give two examples
17. Name two anticoagulants with their mechanism of action
18. Insulin clearance test
19. Mention the functions of ovary
20. Define cyanosis. Name the types
21. Mention the functions of a) Mitochondria b) Golgi apparatus
22. Differentiate between red and pale muscle

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M.B.B.S. PHASE - I Degree Examination - July 2008

24

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (Revised Scheme II)

QP Code: 1077

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Enumerate the plasma proteins along with their site of synthesis. List the important functions of plasma proteins and their normal serum levels. Define hypoproteinemia & discuss its clinical significances
2. What is ECG? Enumerate the various ECG leads with a suitable diagram. Discuss the various waves in ECG & their importance

SHORT ESSAY

10 X 5 = 50 Marks

3. Chemical Regulation of Respiration
4. Na⁺K⁺ Pump
5. P-R Interval
6. Poiseuille's law
7. Triple reaction
8. Auto regulation of renal blood flow
9. Baroreceptors
10. Lung function tests
11. T cells V/s B cells
12. Intestinal movements and slow wave

SHORT ANSWERS

10 X 3 = 30 Marks

13. Capacitance vessels
14. Filtration coefficient
15. Atrial natriuretic factor
16. Role of loop of henle in urine concentration mechanism
17. Metabolic acidosis
18. Erythropoietin
19. Surfactant
20. Reticulo endothelial system
21. Alkaline tide
22. Periodic breathing

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M.B.B.S. PHASE - I Degree Examination - July 2008

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER II (Revised Scheme)

QP Code: 1054

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Describe the role of different hormones in growth and development of breast. What is the role of prolactin and oxytocin in lactation
2. Describe the connections and functions of cerebellum

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the actions of parathyroid hormone
4. Explain the actions of oestrogen
5. Explain the actions of Testosterone
6. Define and classify synapses. Explain the properties of occlusion and subliminal fringe
7. Describe the role of hypothalamus in regulation of food and water intake
8. Define Fatigue. Explain the factors affecting fatigue. Why does the cardiac muscle not become fatigued?
9. Define muscle tone. Explain reflex regulation of muscle tone
10. Describe the refractive errors of eye. How are they corrected?
11. Trace auditory pathway
12. Define visual acuity. Describe factors affecting it

SHORT ANSWERS

16 X 2 = 32 Marks

13. Clinical features of cretinism
14. Explain the factors affecting spermatogenesis
15. Explain the mechanism of action of steroid hormones
16. List hormones regulating menstrual cycle
17. Define sleep. Explain the characteristic features of REM sleep
18. Define sensory unit and dermatome
19. Enumerate the functions of medulla oblongata
20. Explain the mechanism of presynaptic inhibition
21. What is Myasthenia Gravis? Describe the basis of its treatment
22. Draw and label sarcomere
23. Draw and label strength-duration curve
24. What is blind spot? Why it is blind?
25. Describe the importance of tympanic reflex
26. Describe the circulation of aqueous humour
27. Explain the factors affecting body temperature
28. Describe the mechanism by which body loses heat

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Time : 3 Hrs.

[Max. Marks : 100]

PHYSIOLOGY - PAPER II (Revised Scheme II)

QP Code: 1078

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Explain the interplay between ovarian and hypothalamic - pituitary hormones for regulation of menstrual cycle
2. Draw a diagram showing physiological anatomy of synapse. Describe electrical events during neuronal excitation

SHORT ESSAY

10 X 5 = 50 Marks

3. Functions tympanic membrane and ossicles
4. Functions of glucagon
5. Vestibular apparatus
6. Problems in prematurity
7. Motivation and addiction
8. Withdrawal reflex
9. Role of conduction type of heat loss in treating heat stroke
10. Walk along mechanism for contraction of muscle
11. Primary hyperparathyroidism
12. Factors that increases and decreases the insulin secretion

SHORT ANSWERS

10 X 3 = 30 Marks

13. Different types of summation in neurons
14. Draw the diagram showing dorsal column lemniscal system
15. Discuss papilledema
16. Mass reflex
17. Schematic diagram showing regulation of thyroid hormones
18. Decorticate rigidity
19. Presbiopia and its correction
20. Dyslexia
21. Mechanism of depth perception of object by the eyes
22. Sympathetic and parasympathetic tone

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M.B.B.S. PHASE - I Degree Examination - July 2008

Time: 3 Hrs.

[Max. Marks: 90]

PHYSIOLOGY - PAPER II (Old Scheme)

QP Code: 1004

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Name the nuclei, connections and functions of Basal Gaglia. Add a note on Parkinson's disease
2. Discuss the molecular mechanism of hormone action

SHORT ESSAY

10 X 5 = 50 Marks

3. What is Babinski's sign - in which condition it is seen
4. Tabulate differences between pyramidal and extra pyramidal systems
5. Explain dark adaptation
6. Explain the physiological actions of parathormone
7. Enumerate the functions of Hypothalamus. Explain **any one** function
8. Draw a neat diagram of optic pathway and show lesions in its pathway
9. Name the structures in the middle. Explain impedance matching
10. Explain the features of Conn's syndrome
11. Explain indicators of ovulation
12. What is Neuroendocrine reflex? Explain with an example

SHORT ANSWERS

10 X 2 = 20 Marks

13. List the features of cretinism
14. "Osteo Porosis" what is it? When does it occur?
15. List the functions of pineal gland
16. Write the features of rapid-eye-movement sleep
17. What is Aphasia? What are the types? Name the centre for speech
18. List the features of "Adreno genital syndrome"
19. List the steps of spermato genesis
20. Explain decerebrate rigidity
21. What is Renshaw cell inhibition?
22. Explain the mechanism of action "Intra uterine contraceptive device"

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M.B.B.S. PHASE - I Degree Examination - July 2008

Time: 3 Hrs.

[Max. Marks: 90]

PHYSIOLOGY - PAPER I (Old Scheme)

QP Code: 1003

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Describe the changes occurring during erythropoiesis. List six substances needed for erythropoiesis
2. Describe the functions and regulation of secretion of thyroxin. What are the clinical manifestation of cretinism

SHORT ESSAY

10 X 5 = 50 Marks

3. With the help of a graph, explain Starling's law of the heart
4. Name the posterior pituitary hormones. Describe their physiological actions
5. Describe the JG apparatus and give the functions
6. What is myasthenia gravis? What are its clinical features? Explain the basis of its treatment
7. Explain the role of peripheral chemoreceptors in the regulation of respiration
8. Define homeostasis and describe the different control systems of the body with examples
9. Explain the methods of contraception in male
10. Describe the excitation - contraction coupling
11. Diagrammatically represent a normal ECG. Explain the cause for different waves
12. Describe ionic basis and properties of action potential

SHORT ANSWERS

10 X 2 = 20 Marks

13. Differentiate between first and second heart sound
14. List types of B lymphocytes
15. What is normal ESR? What is its importance?
16. Functions of gastric hydrochloric acid
17. Name the four proteins present in the muscle
18. Name the muscles taking part in quiet inspiration
19. State the functions of transverse tubular system
20. Cyanosis
21. Erythroblastosis foetalis
22. Functions of placenta

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M.B.B.S. PHASE - I Degree Examination - July 2008

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (Revised Scheme)

QP Code: 1053

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Classify blood groups and explain how Erythroblastosis fetalis takes place
2. Explain the Nervous regulation of respiration

SHORT ESSAY

10 X 5 = 50 Marks

3. Explain the conditioned and unconditioned reflexes which increase salivary juice secretion
4. Explain defecation reflex in large intestine
5. What is Achlor hydia? What complications does it lead to?
6. Explain oxygen transport in the blood
7. Explain the acclimatization to high altitudes
8. Explain the causes of four Heart sounds during Cardiac cycle. How are these recorded?
9. Explain the causes of each wave in jugular venous pulse
10. Define cardiac output and explain the factors regulating it
11. What is the normal heart rate and explain the nervous regulation of heart rate?
12. What is the length and diameter of proximal tubule of Nephron? What the substances reabsorbed in this tubule?

SHORT ANSWERS

16 X 2 = 32 Marks

13. What is Haldanes effect and where is it taking place?
14. What is Hamburger's phenomenon and where is it taking place?
15. What is Achalasia cardia and what is the cause of it?
16. What is mega colon? Why does it occur?
17. What is cushings reflex and how it restores blood pressure?
18. Name the plasma proteins. How much pressure exerted by these proteins in vascular system? What is the importance of this pressure?
19. Classify Haemophilia and its causes of each
20. Write briefly the importance of blood groups
21. What is Thrombocytopenic purpura and what are its complications?
22. Which are called counter current multipliers in the Nephron and what are their importance?
23. What are the substances synthesized and excreted in the collecting duct of Nephron helping in increasing acidity of urine?
24. What are vasa recta and their importance?
25. How much is functional residual capacity (F.R.C) in the lungs? What is its importance?
26. What is importance of Renin angiotensin mechanism?
27. What is the action of Atrial Natriuretic Peptide (ANP) on the kidney?
28. How much is the Hydrostatic pressure in the glomerulus of malphigian body and what is it's importance?

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M.B.B.S. PHASE - I Degree Examination - January 2009

30

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (Revised Scheme)

QP Code: 1053

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Define blood pressure and explain the factors controlling blood pressure
2. Describe oxygen dissociation curve and explain the factors that cause right shift and left shift of dissociation curve

SHORT ESSAY

10 X 5 = 50 Marks

1. How much is normal blood volume and how is it kept constant?
4. What is extra cellular fluid volume (E.C.F) and how is it measured?
5. Explain endocytosis
6. Explain left intra ventricular pressure changes during cardiac cycle
7. Explain the peculiarities of pulmonary circulation
8. What is mass peristalsis and when does it takes place?
9. Explain Laplace law. What is cystometrogram?
10. What is turbulent flow of blood? Where is it taking place physiologically? How it is measured?
11. Name the inter nodal tracts in the conducting system of heart. Explain the importance of A.V Nodal delay
12. Describe the hormonal regulation of exocrine pancreatic secretion

SHORT ANSWERS

16 X 2 = 32 Marks

13. What is the cause of respiratory distress syndrome in adults and infants?
14. Classify Jaundice and write one cause of each type of Jaundice
15. What are the actions of bile salts in bile juice?
16. Which substances are called cholagogues and what is their importance?
17. What are the actions of Somatostatin?
18. What do you mean by Achalasia gastrica?
19. Name the maturation factors in Erythropoiesis
20. Write briefly on secretion and action of Intrinsic factor of castle
21. Write briefly on pharyngeal phase of deglutition
22. Write the actions of proteolytic enzymes in pancreatic juice
23. What are chylomicrons? How are these produced?
24. What is the importance of Segmentation peristalsis in small intestine?
25. What is Dietary fibre? What is its importance?
26. What is mega karyocyte? Where it is present? Briefly write its function
27. What is bundle of Kent and what E.C.G changes are demonstrated in its presence?
28. What is Bradycardia? In which subjects is it observed physiologically and explain the reason?

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M.B.B.S. PHASE - I Degree Examination - January 2009

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Time : 3 Hrs.

[Max. Marks : 100]

PHYSIOLOGY - PAPER II (Revised Scheme II)

QP Code: 1078

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. With the help of a suitable diagram, describe the mechanisms of action of growth hormone. Describe the functions of growth hormone
2. Describe the role of spinal cord and medulla in the control of movement and posture

SHORT ESSAY

10 X 5 = 50 Marks

3. Physiology of puberty in females
4. Role of calcium in muscle contraction
5. Ionic basis of nerve action potential
6. Effects of thyroxine on body metabolism
7. Physiological basis of differences in cardiovascular effects of adrenaline & noradrenaline
8. Functions of spinocerebellum
9. Neuromuscular blockers
10. Pathways for fast and slow pain
11. Cardiovascular changes on exposure to cold
12. Mechanisms of colour vision

SHORT ANSWERS

10 X 3 = 30 Marks

13. Role of cyclic GMP as a second messenger
14. Functions of inhibin
15. Alpha-gamma colinkage
16. Functions of prolactin
17. Physiological basis of use of a drug in the treatment of stroke
18. Rheobase
19. Role of vitamin D in the prevention of osteoporosis
20. Functions of parietal lobe of the brain
21. Mechanism of increased BMR in hyperthyroidism
22. Physiological basis of use of a drug in relieving inflammatory pain

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M.B.B.S. PHASE - I Degree Examination - January 2009

32

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER II (Revised Scheme)

QP Code: 1054

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Describe the synthesis, regulation and functions of thyroid hormone
2. Describe the various nuclei and functions of hypothalamus. Describe its role in feeding and satiety

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the effects of hemisection of the spinal cord
4. Describe the pathway of fine touch
5. Describe the maternal changes during pregnancy
6. Describe the role of FSH and LH in regulation of ovarian cycle
7. Describe the regulation and functions of Glucagon
8. Describe the mechanism of smooth muscle contraction
9. Describe the oxygen debt mechanism
10. Describe the mechanism of dark and light adaptation
11. Describe the sequence of events in phototransduction in Rods and Cones
12. Explain the Ionic basis of photoreceptor potentials

SHORT ANSWERS

16 X 2 = 32 Marks

13. List the functions of corpus luteum
14. Explain the role of parathyroid hormone in calcium metabolism
15. Give typical findings in the adrenogenital syndrome in a post pubertal woman
16. Describe typical findings in acromegaly
17. Describe the innervation and movements of extra ocular muscles
18. Enumerate the functions of semicircular canals, utricle and saccule
19. Draw and label basic neural circuits in olfactory bulb
20. Describe thermoregulatory responses activated by exposure to heat
21. Describe the distribution and functions of eccrine sweat glands
22. Draw and label structure and innervation of muscle spindle
23. Explain the doctrine of specific nerve energies
24. Explain reciprocal innervation
25. Explain the functions of flocculonodular lobe
26. Draw and label action potential in a neuron
27. Differentiate between isotonic and isometric contraction
28. Enumerate the properties of smooth muscle

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - January 2009

33

Time: 3 Hrs.

[Max. Marks: 90]

PHYSIOLOGY - PAPER II (Old Scheme)

QP Code: 1004

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Explain the effects of complete section of spinal cord at T-10 level
2. Explain the synthesis, functions of thyroid hormone. What is "Wolff Chaikoff" effect?

SHORT ESSAY

10 X 5 = 50 Marks

3. What are the functions of reticular formation?
4. Differentiate between upper motor neuron lesion and lower motor neuron lesion
5. Explain the functions of testosterone
6. What is tremor? What are the different types?
7. Name **any two** inhibitory neurotransmitters explain, how they act?
8. Classify cerebellum based on physiological lobes. What are the functions of cerebellum?
9. List the features of Cushing's diseases? Explain the physiological basis of any one feature
10. What is condition reflex? List the characteristics of conditioned reflex
11. What are functions of ADH? What is the mechanism of action?
12. Explain the functions of Oxytocin

SHORT ANSWERS

10 X 2 = 20 Marks

13. Define bell – Magendie law
14. What are Purkinje Samson's images?
15. Name the glucose transporters? And their location
16. Explain cause of glycosuria in diabetes
17. What are the differences between de afferentation and de efferentation
18. What is working memory?
19. What is "Muller's Doctrine" of specific nerve energies
20. What are the functions of insulin?
21. Define Starling's law as applied to skeletal muscle
22. Explain the term 'free load' and 'after load' as applied to skeletal muscle

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M.B.B.S. PHASE - I Degree Examination - January 2009

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Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (Revised Scheme II)

QP Code: 1077

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Enumerate the important Gastro-intestinal hormones. Discuss briefly their various actions on the G.I Tract.
2. With a neat flowchart, describe in detail the steps of coagulation of blood. Enumerate the various coagulation factors. Add a note on anticoagulants

SHORT ESSAY

10 X 5 = 50 Marks

3. Innervations of the heart
4. Standard limb leads
5. Water - Hammer pulse
6. Coronary circulation
7. Rennin-Angiotensin system
8. Chloride shift
9. Glomerular filtration rate
10. Cough reflex
11. Dead space
12. Role of Adenosine in blood flow regulation

SHORT ANSWERS

10 X 3 = 30 Marks

13. Factors causing hypo effective heart
14. Nephrotic syndrome
15. Bicarbonate buffer system
16. Functions of Hemoglobin
17. Alkaline tide
18. Periodic breathing
19. Oxygen dissociation curve
20. Positive 'G'
21. Swallowing
22. Vitamin K

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - January 2009

35

Time: 3 Hrs.

[Max. Marks: 90]

PHYSIOLOGY - PAPER I (Old Scheme)

QP Code: 1003

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Describe the changes occurring during erythropoiesis. List six substances needed for erythropoiesis
2. Describe the functions and regulation of secretion of thyroxin. What are the clinical manifestation of cretinism

SHORT ESSAY

10 X 5 = 50 Marks

3. With the help of a graph, explain Starling's law of the heart
4. Name the posterior pituitary hormones. Describe their physiological actions
5. Describe the JG apparatus and give the functions
6. What is myasthenia gravis? What are its clinical features? Explain the basis of its treatment
7. Explain the role of peripheral chemoreceptors in the regulation of respiration
8. Define homeostasis and describe the different control systems of the body with examples
9. Explain the methods of contraception in male
10. Describe the excitation - contraction coupling
11. Diagrammatically represent a normal ECG. Explain the cause for different waves
12. Describe ionic basis and properties of action potential

SHORT ANSWERS

10 X 2 = 20 Marks

13. Differentiate between first and second heart sound
14. List types of B lymphocytes
15. What is normal ESR? What is its importance?
16. Functions of gastric hydrochloric acid
17. Name the four proteins present in the muscle
18. Name the muscles taking part in quiet inspiration
19. State the functions of transverse tubular system
20. Cyanosis
21. Erythroblastosis foetalis
22. Functions of placenta

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June/July 2009

36

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER II (Revised Scheme)

QP Code: 1054

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Describe the changes in the ovary during menstrual cycle. Explain the mechanism of fertilization
2. Describe the origin, course and termination of cortico-spinal tract. What are the effects of lesion at internal capsule?

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the effects of hypersecretion of growth hormone
4. Describe the functions of glucagon
5. Describe the endogenous pain inhibiting mechanism
6. Describe the various waves in electro encephalogram and explain what is alpha block
7. Discuss the role of Wernicke's area in production of speech
8. Explain how impulse is propagated in the myelinated and unmyelinated neurons
9. Explain the mechanism of excitation - contraction coupling in visceral smooth muscle
10. Describe the taste pathways and mechanism of taste perception
11. What is dark adaptation? Explain the factors contributing to dark adaptation
12. Describe the structure of organ of corti and explain the mechanism of stimulation of hair cells

SHORT ANSWERS

16 X 2 = 32 Marks

13. Explain synaptic fatigue
14. Describe the functions and the features of primary motor area
15. Explain the mechanism of Ejaculation of semen
16. Name the placental hormones
17. What are the signs of tetany?
18. What are the manifestations of Addison's disease?
19. What are the functions of calcitonin?
20. Explain how anti-diuretic hormone acts on collecting duct
21. Explain 'flight or fight' reaction
22. Explain how behavioral thermo-regulation operates to maintain body temperature
23. Explain what is heat stroke
24. Define 'Rheobase', 'utilization time' and chronaxie
25. Explain what is end-plate potential
26. Explain electromyography and its clinical importance
27. What is Presbyopia? How can it be corrected?
28. Describe the functions of middle ear ossicles

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June/July 2009

37

Time : 3 Hrs.

[Max. Marks : 100]

PHYSIOLOGY - PAPER II (RS-2 & RS-3)

QP Code: 1078

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. What are the functions of ovary? How are the ovarian functions regulated?
2. Describe the origin, course, termination and functions of corticospinal tract with the labeled diagram. List the effects of lesion of the tract in right internal capsule

SHORT ESSAY

10 X 5 = 50 Marks

3. Stretch reflex
4. Brown-sequard syndrome
5. Parkinsonism
6. Impedence matching
7. Light and accommodation reflexes
8. Describe the pathway for smell
9. Tests for hearing
10. Sertoli cell
11. Immunological tests for pregnancy
12. Cushing's syndrome

SHORT ANSWERS

10 X 3 = 30 Marks

13. Safe period
14. Insulin
15. Myxedema
16. Placental hormones
17. Cerebro - spinal fluid
18. Sweat gland
19. Saltatory conduction
20. Hypermetropia
21. Strength - duration curve
22. Tetany

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June/July 2009

38

Time: 3 Hrs.

[Max. Marks: 90]

PHYSIOLOGY - PAPER II (Old Scheme)

QP Code: 1004

Your answers should be specific to the questions asked.

Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. With a neat labeled diagram, describe the origin, course, termination and functions of Corticospinal Tract.
2. Describe the Theories of colour vision. Classify colour blindness. Name the tests for colour blindness.

SHORT ESSAY

10 X 5 = 50 Marks

3. Define synapse. Classify synapses. Describe two properties of synapse.
4. Define speech. Classify Aphasia. Differentiate between Aphasia and Dysarthria.
5. Define Ovulation. Describe regulation of Ovulation.
6. Hypothermia.
7. Differentiate between Thyroid Dwarf and Pituitary Dwarf.
8. Enumerate the actions of Aldosterone. How is its secretion regulated?
9. Describe the pathway of hearing.
10. Differentiate between Rods and Cones.
11. Functions of skin.
12. Describe the effects of Hemisection of spinal cord below the lesion.

SHORT ANSWERS

10 X 2 = 20 Marks

13. Reciprocal Innervation.
14. Parkinsonism.
15. Enumerate Extra Pyramidal Tracts.
16. Enumerate stages of spermatogenesis.
17. Mechanism of action of oral contraceptives.
18. Characteristics of conditioned reflex.
19. Draw and label reflex Arc.
20. Actions of prolactin and Oxytocin on Mammary gland.
21. Define learning and memory.
22. Functions of middle ear.

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June/July 2009

39

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (RS-2 & RS-3)

QP Code: 1077

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Define Hypoxia. Classify hypoxias and explain the features seen in the different types of hypoxia
2. Draw a neat labeled diagram of the cardiac cycle, correlating it with pressure and volume changes. Explain the events in detail

SHORT ESSAY

10 X 5 = 50 Marks

3. T Lymphocyte
4. Body fluid compartments
5. Oxygen therapy
6. Diuresis
7. Juxta-Glomerular Apparatus
8. Chloride shift
9. P-R interval
10. Exocrine secretion of Pancreas
11. Dietary fibre
12. Second stage of deglutition

SHORT ANSWERS

10 X 3 = 30 Marks

13. Draw a neat labeled diagram showing the innervation of bladder
14. What is migratory motor complex?
15. What is vagal tone? Explain
16. What is the physiologic role of mesangial cells?
17. What is Triple response?
18. What is Alveolar capillary block syndrome?
19. Diagrammatically represent the ventilatory changes during exercise
20. What are the sequelae after partial gastrectomy?
21. Refractory period of a cardiac muscle fibre
22. Draw a neat labeled diagram of the Glomerular filtering membrane

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Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June/July 2009

40

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (Revised Scheme)

QP Code: 1053

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Name the leads used in recording of E.C.G and describe the E.C.G waves and intervals
2. Describe the Neural Regulation of respiration, mentioning the locations of Respiratory centres

SHORT ESSAY

10 X 5 = 50 Marks

3. How the Juxta glomerular complex is formed? What are the hormones secreted by it? Explain the actions of each hormone
4. Explain the importance of counter current mechanism in the kidney
5. Draw a diagram of special conducting system of heart. How is Idio ventricular rhythm is produced?
6. What is mechanics of breathing? What are the factors necessary in Automatic breathing?
7. Where is the intra pleural pressure? What are the variations in different phases of respiration?
8. Name the procoagulants and explain how these hasten the coagulation process
9. What is micro circulation and explain the pressures in it
10. What is Dyspnea, Dyspnic index? In what conditions is dyspnea observed?
11. Name the bacteria in intestine. In which segment of gastro intestinal tract it is located? How does it help man?
12. Describe the nerve supply of urinary bladder

SHORT ANSWERS

16 X 2 = 32 Marks

13. What is the importance of artificial kidney?
14. Explain Insulin clearance test
15. What is the important function of macula densa in distal tubule of Nephron?
16. What is Lung Compliance? And in what conditions it is variable
17. Increase of which capillary pressure in pulmonary circulation leads to pulmonary oedema and explain the reasons
18. Explain Blood Brain Barrier in Cerebral circulation
19. Why do heart rate and rate of respiration increase during Exercise?
20. Name the factors increasing the venous return to right atrium
21. Write briefly the right ventricular pressure changes during cardiac cycle
22. What is Mega colon and what are the causes and complications of this disease?
23. Name the properties of cardiac muscle and what is the importance of Absolute Refractory period
24. Write briefly on volume changes in the ventricles during cardiac cycle
25. What is the cause of 'T' wave in the E.C.G? In which leads is it inverted normally?
26. Draw a diagram of spirogram and label the volumes and capacities
27. Name the complications of mismatched blood transfusion
28. What is hypertension? What are the causes leading to secondary hypertension?

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Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June/July 2009

41

Time: 3 Hrs.

[Max. Marks: 90]

PHYSIOLOGY - PAPER I (Old Scheme)

QP Code: 1003

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Where are the chemoreceptors located? Explain the chemical regulation of respiration
2. Discuss the mechanism of concentration of urine

SHORT ESSAY

10 X 5 = 50 Marks

3. Explain the mechanism of HCl secretion with the help of a diagram
4. List **any four** properties of cardiac muscle. Explain **any one** property
5. What is respiratory distress syndrome? Explain the mechanism
6. Enumerate the factors regulating venous return. Explain the role of **any one factor** in detail
7. Explain the peculiarities of coronary circulation
8. Draw the diagram of a cardiac pace maker potential and explain the ionic basis
9. Explain the role of enteric nervous system in the gut
10. Explain the physiological basis of artificial kidney
11. Explain biofeedback mechanism with an example
12. What is immunity? Name the types and explain **any one** in detail

SHORT ANSWERS

10 X 2 = 20 Marks

13. Enumerate functions of leucocytes
14. Enumerate any four functions of capillary circulation
15. Explain the significance of ventilation / perfusion ratio
16. What is "Cystometrogram"? Name the physical law.
17. What is renal threshold? What is the renal plasma threshold for glucose?
18. What is dietary fibre
19. List the effects of mis matched blood transfusion
20. Explain Donnan's equilibrium
21. What is Von Wille Brand's disease?
22. List the factors that influence peripheral resistance

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - December 2009

42

Time : 3 Hrs.

[Max. Marks : 100]

PHYSIOLOGY - PAPER II (RS-2 & RS-3)

QP Code: 1078

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Draw a neat labeled diagram of the muscle spindle. Explain how muscle tone is maintained in the body
2. What are mineralocorticoids? What is their mode of action? Add a note on Conn's syndrome

SHORT ESSAY

10 X 5 = 50 Marks

3. Tabulate the differences between classical decerebration and Ischemic decerebration
4. Contents of middle ear
5. Compare and contrast pyramidal and extra pyramidal systems
6. Mechanism of insulin action at cellular level
7. Accommodation reflex pathway. What is Argyll Robertsons Pupil?
8. What are functions of Hypothalamus?
9. What are the effects of hypophysectomy?
10. What are negative feedback loops?
11. Smell and taste are linked - explain
12. Differentiate between actions of Nor - Epinephrine and Epinephrine

SHORT ANSWERS

10 X 3 = 30 Marks

13. Macular sparing
14. Explain the basis of polyphagia in diabetes mellitus
15. Feto-placental unit
16. Amacrine and Horizontal cells
17. Oxytocin
18. Inhibin
19. Endogenous pyrogens
20. Infertility in female
21. Features of myxoedema
22. Astrocytes

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - December 2009

43

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER II (Revised Scheme)

QP Code: 1054

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Describe the role of different hormones in regulation of blood calcium level
2. Describe the origin, course and functions of cortico-spinal tract

SHORT ESSAY

10 X 5 = 50 Marks

3. Define learning. Explain the role of conditioned reflex in learning
4. Define sleep. Describe the genesis of NREM sleep
5. Define Ovulation. Describe how it is regulated
6. Describe the functions of Testosterone
7. Describe the causes and features of cushing's syndrome
8. Enumerate thyroid function tests
9. Describe the characteristic features of cerebellar lesion
10. Describe the genesis of endolymphatic potential. Which factors affect it
11. Explain the differences between Muscarinic and Nicotinic actions of Acetylcholine
12. Give Erlanger and Gasser's classification of Nerve fibre

SHORT ANSWERS

16 X 2 = 32 Marks

3. What is scotopic and photopic vision? What is Purkin je phenomenon?
14. Describe near response
15. Draw and label organ of corti
16. Explain hormonal control of lactation
17. Describe the features of tetany
18. Define hormone. Explain characteristics of a hormone
19. Describe the mechanism of action of Insulin
20. Explain "All or None law" in respect to cardiac and skeletal muscle
21. What are the functions of ATP in skeletal muscle contraction?
22. Explain the causes of heat rigor and rigor mortis
23. Explain the symptoms and treatment of heat stroke
24. Enumerate the functions of skin
25. Explain presynaptic inhibition
26. Draw and label Golgi Tendon organ. What are its functions?
27. Explain the origin, course and functions of dorsal spinocerebellar tract
28. What is Phantom limb? Explain law of projection

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - December 2009

44

Time: 3 Hrs.

[Max. Marks: 90]

PHYSIOLOGY - PAPER II (Old Scheme)

QP Code: 1004

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Describe regulation of blood sugar in detail
2. Describe functions of basal Ganglia. Add a note on Parkinson's disease

SHORT ESSAY

10 X 5 = 50 Marks

3. What is Graves disease?
4. Describe actions of calcitonin
5. What is Addison's disease?
6. Describe actions of testosterone
7. Write Photochemistry of vision
8. Describe Auditory pathway
9. Classify memory
10. What is REM sleep?
11. Describe pathway for temperature sensation
12. What is Aphasia?

SHORT ANSWERS

10 X 2 = 20 Marks

13. Write any four functions of Ca⁺⁺ in body
14. What is diabetes insipides?
15. Which hormone is secreted by delta cells of islets of pancreas? What is it's action
16. Two tests for ovulations
17. Write differences between general sensations and special sensations
18. What is fast pain and slow pain?
19. What is Astigmatism? What types of lenses are used to correct it?
20. What is insensible perspiration? How much it is?
21. What is spinal shock?
22. What are the effects of Parasympathetic stimulation on heart?

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - December 2009

45

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (RS-2 & RS-3)

QP Code: 1077

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Name the important plasma proteins. What is the normal value? What are the functions of plasma proteins?
2. Describe the conducting system of heart. Explain the pathway of cardiac impulse. What is A-V nodal delay? What is its importance?

SHORT ESSAY

10 X 5 = 50 Marks

3. Intercellular connections
4. Excitation - contraction coupling
5. Name the phases of deglutition. Explain the second phase of deglutition
6. Classify Hypoxia. Explain any two of them
7. Four functions of stomach
8. Jugular Venous Pulse (J.V.P)
9. Anticoagulants
10. Saliva
11. Chloride shift
12. Acidification of urine

SHORT ANSWERS

10 X 3 = 30 Marks

13. What is meant by Exocytosis and Endocytosis? Give one example for each
14. Resting membrane potential
15. Landstainer's law
16. Cystometrogram
17. Define glomerular filtration rate
18. Two functions of juxtra glomerular apparatus
19. Explain facilitated diffusion with an example
20. T-Lymphocyte
21. Functions of thrombocytes
22. Purpura and haemophilia

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - December 2009

46

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (Revised Scheme)

QP Code: 1053

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Describe the various stages of Haemostasis
2. Describe the cardio-respiratory adaptations to exercise

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the factors responsible for synthesis and maturation of red blood cells
4. Describe the composition and functions of pancreatic juice
5. Describe the transport of CO₂ in blood
6. Describe the mechanism of auto regulation of cerebral blood flow
7. Describe the role of different hormones in regulation of blood pressure
8. Describe the buffer systems of the kidney
9. Describe the mechanism of action of drugs used in the management of peptic ulcer
10. Define Glomerular filtration rate. Describe the factors affecting glomerular filtration rate
11. Explain the Poiseuille-Hagen formula
12. Describe the characteristic features of pulmonary circulation

SHORT ANSWERS

16 X 2 = 32 Marks

3. Importance of P-R interval of ECG
14. Explain the mechanism of refractory shock
15. What is "Valsalva Manoeuvre"? How it differ from 'Muller's Manoeuvre'?
16. Define Residual volume and functional residual capacity. Give normal values
17. Explain the voluntary control of respiration
18. State the differences between beta thalassaemia major and minor
19. What is neonatal jaundice? What is the role of phototherapy in its treatment?
20. Write the functions of plasma proteins
21. Describe Myenteric and Meissner's plexus of enteric nervous system
22. Describe the actions of secretin and CCK-PZ on pancreatic secretion
23. Describe the functions of gall bladder
24. What is paralytic ileus? What is its cause?
25. What is the physiological significance of dietary fibres?
26. Write the functions of Golgi apparatus
27. Describe Exocytosis and Endocytosis
28. What is PAH clearance test? What is it's significance?

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - December 2009

47

Time: 3 Hrs.

[Max. Marks: 90]

PHYSIOLOGY - PAPER I (Old Scheme)

QP Code: 1003

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Describe in detail the nervous regulation of respiration.
2. Describe the ionic bases of resting membrane potential and action potential.

SHORT ESSAY

10 X 5 = 50 Marks

3. Define diffusion and describe the factors affecting diffusion
4. Describe the mechanism of ciliary movements
5. Define and classify immunity. Describe the mechanism of actions of antibodies.
6. Enumerate plasma proteins. Describe the functions of plasma proteins.
7. Describe mechanism of transmission of nerve impulse at neuromuscular junction.
8. Enumerate properties of nerve fiber. Describe the factors affecting velocity of nerve impulse.
9. Describe composition and functions of saliva.
10. Describe the mechanism of secretion of hydrochloric acid in stomach.
11. Conducting system of heart & mention velocity of conduction.
12. Define cardiac output and describe the factors affecting cardiac output.

SHORT ANSWERS

10 X 2 = 20 Marks

13. Give two examples of positive feed back mechanism.
14. Define anemia and give laboratory classification of anemia.
15. Define tetanus and fatigue in skeletal muscle.
16. Name the bile salts and bile pigments.
17. Obligatory reabsorption of water
18. Draw and label cystometrogram.
19. State Einthoven's law
20. Describe vagal tone
21. Define timed vital capacity. State its importance.
22. State the muscles of normal and forceful inspiration.

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - December 2010

48

Time : 3 Hrs.

[Max. Marks : 100]

PHYSIOLOGY - PAPER II (RS2)

QP Code: 1078

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Explain the synthesis, storage and secretion of Thyroid hormone. How is its secretion regulated?
Add a note on Hypothyroidism
2. Describe the formation, circulation and functions of C.S.F

SHORT ESSAY

10 X 5 = 50 Marks

3. Refractory errors of the eye
4. Functions of Prefrontal lobe
5. Feto placental Unit
6. Hormonal influence on endometrial changes during menstrual cycle
7. Discuss the length- Tension relationship in cardiac muscle
8. Electromyogram
9. Cholinergic sympathetic fibers
10. Write briefly on Otolith Organs
11. Explain briefly the role of Skin in regulation of Body Temperature
12. Wallerian degeneration

SHORT ANSWERS

10 X 3 = 30 Marks

13. Aldosterone escape
14. Draw and label taste pathway
15. Name four hyperglycemic hormones
16. What are Circadian Rhythms
17. Muscle Spindle
18. Muscle Proteins
19. Functions of Rods and Cones
20. Sweat gland
21. Functions of ADH [Anti Diuretic Hormone]
22. Positive feedback Mechanism

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Rajiv Gandhi University of Health Sciences, Karnataka

MBBS PHASE I Degree Examination – DECEMBER 2010

49

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY – I (Revised Scheme II)

Q.P. CODE:1077

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Classify Plasma Proteins. Explain their functions. Add a note on Albumin-Globulin ratio
2. Define Systolic and Diastolic Blood Pressure and give their normal values. Describe the short term mechanism for regulation of Blood Pressure.

SHORT ESSAYS

10 x 5 = 50 Marks

- 3 Enterohepatic circulation of Bile salts
- 4 Juxta-Glomerular apparatus
- 5 Ventilation Perfusion Ratio
- 6 Oxygen dissociation curve
- 7 Ventricular muscle action Potential
- 8 Intrinsic Mechanism of Blood coagulation
- 9 What is Hagen's Poiseuille's law? Write the formula and explain
- 10 Classify Hypoxia. Explain any two of them
- 11 Role of Angiotensin II in Glomerular Filtration rate
- 12 Resting membrane potential

SHORT ANSWERS

10X3=30 Marks

- 13 What is the difference between anatomical and physiological Dead space?
- 14 Draw a labeled diagram of ECG
- 15 Endocytosis
- 16 Defaecation Reflex
- 17 Muscles of Inspiration
- 18 Physiological basis of a drug in hypertension
- 19 Exocrine functions of Pancreas
- 20 Reynold's number
- 21 Neurogenic Bladder
- 22 Functions of Haemoglobin

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June\July 2010

50

Time : 3 Hrs.

[Max. Marks : 100]

PHYSIOLOGY - PAPER II (RS-2 & RS-3)

QP Code: 1078

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Describe the connections and functions of basal ganglia. Mention the features of basal ganglia lesion
2. Describe the Neuro muscular Junction. Mention the stage of transmission at nerve muscle junction

SHORT ESSAY

10 X 5 = 50 Marks

3. Refractory period
4. Myelinogenesis
5. Describe milk ejection reflex
6. Human chorionic gonadotropin
7. Spermatogenesis
8. Dark adaptation
9. Visual pathway and effects of its lesions
10. Muscle spindle
11. Functions of middle ear
12. Referred pain

SHORT ANSWERS

10 X 3 = 30 Marks

13. Taste buds
14. Acromegaly
15. Name the neurotransmitters in the C.N.S
16. Stereognosis
17. Functions of A.D.H (Antidiuretic hormone)
18. List the features of Grave's disease
19. Renshaw cell inhibition
20. Paradoxical sleep
21. Composition of semen
22. Ovulation

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June\July 2010

(51)

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER II (Revised Scheme)

QP Code: 1054

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Describe the regulation and functions of Aldosterone. Describe the characteristic features of Conn's syndrome
2. Describe the mechanism of secretion, circulation and functions of cerebrospinal fluid

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the effects of hyposecretion of thyroid hormone
4. Explain the importance of breast feeding in prolactin secretion
5. Explain the mechanism of action of oral contraceptive pills
6. Describe the effects of parasympathetic stimulation on cardiac and smooth muscles
7. Describe the course of cortico spinal tract. State its functions
8. Give classification of memory. Describe the mechanism of habituation
9. Explain the actions of drugs acting on neuro-muscular transmission
10. Describe the molecular basis of skeletal muscle contraction
11. Describe the visual pathway. Explain the effects of lesions at various levels
12. Describe the role of inner ear in the mechanism of hearing

SHORT ANSWERS

16 X 2 = 32 Marks

13. Explain features of cushing's syndrome
14. Describe the functions of chorionic gonadotropin hormone
15. Describe the actions of Gonadotropic hormones
16. Describe the composition of semen
17. Explain Babinski's sign
18. Describe the functions of prefrontal lobe
19. Describe the mechanism of referred pain
20. Differentiate between lead pipe rigidity and cog-wheel rigidity
21. What is Rigor mortis? What is its importance?
22. Explain refractory period with respect of skeletal and cardiac muscle
23. Enumerate contractile proteins of muscle
24. Explain primary and complementary colours
25. Enumerate functions of middle ear
26. Enumerate primary taste modalities
27. Describe pathogenesis and functions of fever
28. Describe thermoregulatory responses activated by exposure to cold

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June\July 2010

52

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (Revised Scheme)

QP Code: 1053

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Describe the composition, functions and regulation of secretion of gastric juice
2. Describe the factors affecting diffusion of gases at the Alveolar – capillary membrane. Explain how to determine the diffusion capacity of lungs

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the measurement of cardiac output by dye-dilution technique
4. Explain what is incomplete and complete heart block
5. Describe the manifestations of congestive heart failure
6. Describe the effects of exercise on Cardio-vascular system
7. Describe the manifestations and treatment of Erythroblastosis fetalis. How can it be prevented?
8. Describe the mechanism of formation and functions of lymph
9. Describe the mechanism of reabsorption of sodium ions in renal tubule
10. Describe the structure and functions of Juxta-glomerular apparatus
11. Describe the movements of large intestine
12. Explain what is chloride shift

SHORT ANSWERS

16 X 2 = 32 Marks

13. Explain facilitated diffusion with an example
14. Explain the mechanism of endocytosis with an example
15. Explain the role of vagal stimulation of gastric juice secretion
16. What are cholagogues and choleretics?
17. Explain entero-gastric reflex and its significance
18. Explain the principle of artificial kidney
19. What are the effects of 2, 3-Diphosphoglycerate on oxygen-hemoglobin dissociation curve?
20. Explain why people with 'O' blood group are called Universal donors
21. Give a brief note on sickle-cell anemia
22. Explain the mechanism of platelet aggregation
23. What are the functions of monocytes?
24. Give a brief note on classical hemophilia
25. Explain the role of myoglobin in oxygen transport
26. Explain what is 'Axon Reflex'
27. Explain 'All or None' law in cardiac muscle

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June\July 2010

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Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (RS-2 & RS-3)

QP Code: 1077

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Define Jaundice. Enumerate the causes of Jaundice. What is hemolytic disease of the newborn? Discuss in brief
2. What is shock? Classify shock. Discuss the various types & physiological basis of treatment

SHORT ESSAY

10 X 5 = 50 Marks

3. Heart block
4. Stokes - Adam syndrome
5. Paroxysmal Tachycardia
6. Ventricular Fibrillation
7. Cardiac arrest
8. Reactive hyperaemia
9. Automatic bladder
10. Renal regulation of H⁺ ion
11. Renal dialysis
12. Cyanosis

SHORT ANSWERS

10 X 3 = 30 Marks

13. Coagulation factors
14. Thrombocytopenic purpura
15. Hypoxia
16. Cystometrogram
17. Acute mountain sickness
18. Hyper baric oxygen
19. Functions of saliva
20. Gastric phase of gastric secretion
21. Achalasia Cardia
22. Physiological basis of treatment of hyperacidity

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Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June / July 2011

(S4)

Time : 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER II (RS 2 & RS 3)

QP Code: 1078

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Classify sensory receptors with an example for each. Describe any five properties of receptors
2. Describe the structure of Neuro Muscular Junction and the mechanism of transmission of impulse across neuromuscular junction of skeletal muscle

SHORT ESSAY

10 X 5 = 50 Marks

1. Describe the functions of Basal ganglia
4. Describe the endometrial changes during menstrual cycle
5. Differences between UMN and LMN lesions
6. Principal actions of Insulin
7. Role of hypothalamus in regulation of body temperature
8. Explain the changes during Wallerian degeneration and regeneration of injured nerve fibers
9. Describe the Errors of refraction and their correction
10. Give an account of Acromegaly
11. Describe the actions of testosterone
12. Contents and functions of middle ear

SHORT ANSWERS

10 X 3 = 30 Marks

3. Name the primary taste sensations. What is Aguesia
14. What is aphasia? What are its types
15. What is the normal serum calcium level? List the hormones regulating it
16. What is Aldosterone escape
17. Draw and label a sarcomere in the relaxed state
18. Draw and label olfactory pathway
19. What is the mechanism of action of oral contraceptives
20. What is the normal intra ocular pressure? What is its clinical significance
21. What is phantom limb? What is its physiological basis
22. List the clinical features of cretinism

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Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June / July 2011

(55)

Time: 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER I (Revised Scheme)

QP Code: 1053

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 9 = 18 Marks

1. Describe Nervous control of Respiration
2. What is Anaemia? Describe different types of anaemia with their physiological causes

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe mechanism of Respiration
4. Describe the mechanism of hydrochloric acid secretion in the stomach
5. Describe the regulation of gastric emptying
6. Describe the mechanism of pancreatic secretion
7. Describe the generation of impulse in sinu-atrial node
8. Describe the transport of oxygen in the blood
9. What is surfactant? Give its composition and mechanism of action
10. Describe Acclimatization to low PO_2 at high altitude
11. What are the functions of kidney?
12. Explain the role of tubuloglomerular feed back in auto - regulation of GFR (Glomerular Filtration Rate)

SHORT ANSWERS

16 X 2 = 32 Marks

13. Explain the mechanism of Phagocytosis
14. Enumerate the types of RNA and explain their functions
15. Give the functions of Helper T cell
16. What is Landsteiner's law? For which blood group system is it applicable
17. Describe Erythroblastosis fetalis (Haemolytic disease of new born)
18. Draw and label the pathway of impulse conduction in heart
19. What is Bain bridge reflex? What is its importance?
20. What is periodic breathing?
21. What is the importance of cough reflex?
22. List lung volumes and capacities
23. Give functions of gall bladder
24. Explain the role of secretin in regulation of bile secretion
25. Enumerate the peculiarities of renal circulation
26. What is obligatory urine volume?
27. Describe juxtaglomerular apparatus. Give its importance
28. Draw & label parts of a nephron

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY - I
(RS 2 & RS 3)

Q.P. CODE: 1077

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Name the lead systems employed in recording Electrocardiogram. Draw and label a typical Electrocardiogram and explain the causation of various deflections and intervals
2. Classify the leucocytes and describe their morphological features with the help of diagrams. Elaborate the steps involved in the phagocytic function of neutrophils

SHORT ESSAYS

10 x 5 = 50 Marks

- 3 Draw a diagram of Juxta Glomerular apparatus. Explain its functions
- 4 Mention the causation, morphological features of red cells and treatment of pernicious anemia
- 5 Describe the factors regulating gastric emptying
- 6 Describe the chemical regulation of respiration
- 7 Describe how cushing's reflex is activated and its effect on systemic blood pressure
- 8 Define Fick's principle. Give details of estimation of cardiac output based on it
- 9 Describe the mode of Glucose reabsorption in the proximal tubule of the Nephron and TmG
- 10 What are the types of jaundice, their salient features and method of differentiation
- 11 Give a brief account of respiratory distress syndrome (Hyaline Membrane Disease)
- 12 Describe the pharyngeal phase of deglutition

SHORT ANSWERS

10X3=30 Marks

- 13 What are micelles and how are they formed
- 14 Define functional residual capacity, its normal range and significance
- 15 Explain the operation of Hering - Breuer reflex
- 16 ~~Mention the likely mode of development of diabetes insipidus and its resultant signs and symptoms~~
- 17 What are the types of dead space and their extent
- 18 What is facilitated diffusion and how does it differ from simple diffusion
- 19 Name the important proteolytic enzymes and their mode of activation
- 20 Describe how gastric acid secretion can be reduced to treat acid peptic ulcer
- 21 Mention the effects of vagal stimulation on heart

22. What is secondary active transport? Give an example.

16 Name two anti-coagulants. Explain the mechanism of action of any one of them.

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - Dec 2011 / Jan 2012

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Time : 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER II (RS 2 & RS 3)

QP Code: 1078

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

- Trace the pathway for touch sensation with the help of diagram. What are the effects of "Tabes Dorsalis" on sensory functions
- List the hormones of pituitary gland and elaborate the actions of the growth hormone in the body and the effects of its deficiency and excess secretion

SHORT ESSAY

10 X 5 = 50 Marks

- Describe the organization and function of sarcotubular system in the skeletal muscle
- Draw and label diagram of organ of corti and give its functional details
- Describe the causes and clinical manifestations of cushing's syndrome
- Describe the functions of sertoli cells of testis
- What are the sites, causes and effects of muscle fatigue? What is contraction remainder or physiological contracture
- Explain the sequence of events involved in target cell response to hormonal action
- Describe the structure of taste bud, the location of taste buds and the taste pathway
- Describe any five functions of Estrogens
- What is frontal lobe syndrome and its behavioral effects
- What are the waves of EEG (Electro Encephalogram) and their characteristics? What is alpha block?

SHORT ANSWERS

Erlanger 10 X 3 = 30 Marks

- Which are the large diameter myelinated nerve fibers according to Erlanger and Gasser's classification? Describe the mode of transmission of impulse in myelinated nerves
- Define and explain "Capacitation" of sperms
- Locate the broca's area and mention its role in speech
- Describe the babinski's sign and its cause
- In which conditions tremors are observed and how they are differentiated
- Depict by means of sketches refractory errors in myopia and hypermetropia and their correction
- What is the normal intra ocular pressure? How is it measured? Define glaucoma
- Describe briefly about attenuation reflex/ Tympanic reflex and its significance
- What are the secretory and synthetic functions of skin
- What is motor unit and significance of such arrangement in skeletal muscle

Rajiv Gandhi University of Health Sciences, Karnataka

MBBS PHASE I Degree Examination – Dec 2011 / Jan 2012

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY – I (RS 2 & RS 3)

Q.P. CODE: 1077

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Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two)

2 x 10 = 20 Marks

1. Describe in detail the mode of carbondioxide transport in the blood
2. Illustrate the mechanism of water reabsorption in different segments of nephron

SHORT ESSAYS

10 x 5 = 50 Marks

3. Describe the factors promoting venous return to the heart
4. Give the value of resting coronary blood flow and describe the phasic variation of coronary blood flow during cardiac cycle
5. Describe the Esophageal phase of deglutition. What is achalasia cardia and its effect
6. Describe the formation, drainage and functions of lymph
7. What is the basis of classification blood groups? Define and explain how landsteiner's law is applicable to the blood group systems
8. What are the various method of artificial respiration
9. Describe the ventricular events occurring during cardiac cycle
10. Describe the causes and events in vomiting (Emesis)
11. Describe with the help of diagrams various types of cell junctions and their functional significance
12. Name the enzymes of succus entericus and their actions

SHORT ANSWERS

10X3=30 Marks

13. What is respiratory quotient and the effect of metabolism of various food stuffs on its value
14. Which segments of vascular system contribute the resistance to blood flow and why? Give the formula relating resistance to pressure and flow
15. Define cyanosis and mention its causes
16. What is sinus arrhythmia and its cause
17. What is packed cell volume (Hematocrit) and how is it determined
18. Describe the initiation, progress and purpose of peristalsis in small intestine
19. What is opsonization and its purpose? Name few opsonins
20. Describe the enterogastric reflex and its purpose
21. Describe the Bainbridge reflex
22. What is colloidal osmotic pressure and its significance

Rajiv Gandhi University of Health Sciences, Karnataka

MBBS PHASE I Degree Examination – June / July 2012

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY – I (RS 2 & RS 3) **Q.P. CODE: 1077**

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Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 10 = 20 Marks

1. Describe the mechanism of blood coagulation. Add a note on haemophilia
2. Describe in detail the neural regulation of respiration

SHORT ESSAYS

10 x 5 = 50 Marks

3. What is the composition and functions of pancreatic juice?
4. Describe the Sino – Aortic reflex
5. Describe the mechanism of HCL secretion in stomach
6. Describe the renal tubular handling of sodium
7. Describe the forms in which carbon dioxide is transported in blood? Add a note on chloride shift
8. Explain the Entero – hepatic circulation. Give its importance
9. Describe the ionic basis of cardiac pacemaker potential
10. Write briefly on Erythrocyte Sedimentation Rate
11. Enumerate different modes of transport across cell membrane. Describe primary active transport with an example
12. Describe the cardiovascular changes during muscular exercise

SHORT ANSWERS

10X3=30 Marks

13. Mention the properties of cardiac muscle
14. Give the laboratory classification of anaemia with an example for each
15. What is Bombay blood group?
16. Draw a labeled diagram of a Nephron
17. List three differences between first and second heart sounds
18. Define tidal volume and residual volume. Give their normal values
19. What is Achalasia cardia? What is its cause?
20. What is Windkessel effect? What is its significance?
21. What is GFR? Give its normal value. How is it measured?
22. List the functions of CCK – PZ

Rajiv Gandhi University of Health Sciences

M.B.B.S. PHASE - I Degree Examination - June / July 2012

Time : 3 Hrs.

[Max. Marks: 100]

PHYSIOLOGY - PAPER II (RS 2 & RS 3)

QP Code: 1078

60

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary.

LONG ESSAY

2 X 10 = 20 Marks

1. Trace the pathway for touch sensation with the help of diagram. What are the effects of "Tabes Dorsalis" on sensory functions
2. Describe the structure of Neuro Muscular Junction and the mechanism of transmission of impulse across neuromuscular junction of skeletal muscle

SHORT ESSAY

10 X 5 = 50 Marks

3. Describe the causes and clinical manifestations of cushing's syndrome
4. Describe any five functions of Estrogens
5. What are the waves of EEG (Electro Encephalogram) and their characteristics? What is alpha block?
6. Contents and functions of middle ear
7. Describe the endometrial changes during menstrual cycle
8. Describe the Errors of refraction and their correction
9. Describe Milk Ejection Reflex
10. Principal actions of Insulin
11. Describe clinical features of cerebellar lesion
12. Describe colour blindness

SHORT ANSWERS

10 X 3 = 30 Marks

13. Define and explain "Capacitation" of sperms
14. ~~Describe briefly about attenuation reflex/ Tympanic reflex and its significance~~ *List the changes in the eye during accommodation to near vision*
15. What is the mechanism of action of oral contraceptives?
16. List the functions of skin
17. List the clinical features of cretinism
18. What are the changes after bilateral vasectomy?
19. What is aphasia? What are its types
20. What is impedance matching?
21. Describe any two tests to evaluate thyroid function
22. Describe the babinski's sign and its cause

Rajiv Gandhi University of Health Sciences, Karnataka

First Phase MBBS Degree Examination – Dec 2012

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY-PAPER I (RS2 & RS3 SCHEME)

QP Code: 1077

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 10 = 20 Marks

1. Describe the chemical regulation of breathing.
2. Describe the counter current multiplier system. What is its role?

SHORT ESSAYS

10 x 5 = 50 Marks

3. Define secondary active transport and describe the factors affecting it giving examples.
4. Draw 'carbon dioxide dissociation curve'. Explain 'Haldane Effect'
5. Functions of T-lymphocytes'
6. Erythroblastosis Foetalis.
7. Classify smooth muscles .List the properties of any one
8. Sources of energy for skeletal muscle contraction.
9. Explain 'defecation reflex'
10. Describe the digestion and absorption of carbohydrates.
11. Starling's Law and it application to heart.
12. Venous return

SHORT ANSWERS

10 x 3 = 30 Marks

13. List two 'peptide' hormones . Explain the mechanism of action of any one.
14. Calculate **MCV** and **MCH**, given;
PCV= 45%, RBC Count = 5 million/cu.mm, Hb%= 15 Gm%.
15. Myasthenia gravis.
16. Steatorrhea.
17. Factors influencing G.F.R
18. Juxta glomerular apparatus.
19. Sinus arrhythmia.
20. Phonocardiogram
21. Ventilation-Perfusion ratio.
22. Lung Compliance.

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Rajiv Gandhi University of Health Sciences, Karnataka

First Phase MBBS Degree Examination – Dec 2012

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY-PAPER II (RS2 & RS3 SCHEME) QP Code: 1078

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 10 = 20 Marks

1. Describe the functions of hypothalamus
2. Describe the hormonal regulation of plasma calcium level. Add a note on hypocalcemic tetany.

SHORT ESSAYS

10 x 5 = 50 Marks

3. Disorders of growth hormone secretion
4. Cellular mechanism of action of peptide hormones
5. Importance of clinical testing of muscle tone
6. Properties of sensory receptors
7. Visual pigments
8. Taste pathway.
9. Source and actions of dihydrotestosterone
10. Follicular phase of menstrual cycle
11. Myasthenia gravis.
12. Nigrostriatal pathway

SHORT ANSWERS

10 x 3 = 30 Marks

13. GABA
14. Post rotatory nystagmus.
15. Bitemporal hemianopia
16. Glaucoma
17. Inhibins
18. Semen
19. Electromyogram
20. Absolute refractory period
21. Nonshivering thermogenesis
22. Effects of hypoglycemia

Rajiv Gandhi University of Health Sciences, Karnataka

First Phase MBBS Degree Examination – June 2013

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY-PAPER I (REVISED SCHEME) QP Code: 1053

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 9 = 18 Marks

1. Describe the various stages of Leucopoiesis
2. Describe the physiological basis of 'irreversible shock'

SHORT ESSAYS

10 x 5 = 50 Marks

3. Describe the extrinsic pathway of clotting
4. Describe the regulation of gastric secretion
5. Describe the mechanism of gaseous exchange in the lungs
6. Describe the mechanism of auto regulation of renal blood flow
7. Describe the role of chemo receptors in regulation of blood pressure
8. Describe the role of the kidney in water balance
9. Describe the pharyngeal stage of deglutition.
10. Describe the mechanism of sodium reabsorption in the kidney
11. Explain the effects of vagal stimulation on heart
12. Describe the characteristic features of splanchnic circulation

SHORT ANSWERS

16 x 2 = 32 Marks

13. Draw a labeled diagram of ECG taken from Lead II.
14. Explain the principles of artificial respiration
15. How does "Muller's Manoeuvre" affect circulation?
16. Define 'timed vital capacity'. Mention its significance.
17. Explain the mechanism of ventilation during quiet breathing.
18. Explain the changes in blood in obstructive jaundice
19. Give the agglutinogen and agglutinin content of different blood groups of ABO System.
20. Define 'pitting edema'. Give its physiological basis
21. Enumerate the functions of saliva.
22. Explain the actions of 'Secretin'
23. Enumerate the functions of large intestine.
24. Give the site of absorption of a) Vitamin B12 and b) Iron in the gut.
25. What is 'steatorrhea'? Give its physiological basis
26. List the functions of cell membrane.
27. Define 'facilitated diffusion'. Explain its mechanism.
28. How is a substance handled by the kidney if its 'clearance rate' is 160 ml per minute?

Rajiv Gandhi University of Health Sciences, Karnataka

First Phase MBBS Degree Examination – June 2013

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY-PAPER II (REVISED SCHEME)

QP Code: 1054

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 9 = 18 Marks

1. Describe the physiological actions and regulation of secretion of thyroxine.
2. Discuss how cerebellum controls motor activity. Add a note on tests of cerebellar function.

SHORT ESSAYS

10 x 5 = 50 Marks

3. Draw and label a nerve action potential. Explain propagation of action potential along an unmyelinated axon.
4. Name the different visual field defects caused by lesions to visual pathway. Give the basis of each defect. What is 'macular sparing'?
5. Name the language areas of cerebral cortex. Mention their location. Give the features of lesion to these areas.
6. Describe the features of Cushing's syndrome
7. Define 'referred pain'. Give any TWO examples of referred pain. Explain its physiological basis.
8. Explain the steps of synaptic transmission. Name any ONE inhibitory neurotransmitter substance.
9. Explain the functions of organ of Corti
10. Explain how sexual differentiation occurs in fetal life. Add a note on pseudo hermaphroditism.
11. Explain the ovarian changes during a normal menstrual cycle
12. Explain the sliding filament mechanism of muscle contraction.

SHORT ANSWERS

16 x 2 = 32 Marks

13. Using a tabular column, compare diabetes mellitus and diabetes insipidus with respect to any TWO features.
14. Mention FOUR features of lesion to corticospinal fibers at right internal capsule level.
15. Mention the site of production, drainage and method of collection of cerebrospinal fluid (CSF).
16. Name the endogenous opioid peptides. Mention their role.
17. Name the receptors for inverse stretch reflex. Mention the significance of this reflex.
18. Name the ear ossicles. Mention their role in hearing.
19. Give the physiological basis of dark adaptation.
20. Mention the location of olfactory receptors. What is olfactory adaptation?
21. Give the source and any THREE actions of testosterone in adult life.
22. How is corpus luteum formed? Mention its function.
23. Name any FOUR contraceptive methods employed in females.
24. Mention the components and functions of sarcotubular system in skeletal muscle.
25. Name the two major types of smooth muscles. Give any TWO differences between them.
26. What is 'chromatolysis'? When does it occur?
27. Name the hypothalamic centers that regulate body temperature. Mention the role of hypothalamus in the causing fever.
28. List any FOUR functions of skin.

Rajiv Gandhi University of Health Sciences, Karnataka

First Phase MBBS Degree Examination – June 2013

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY-PAPER II (RS2 & RS3 SCHEME) QP Code: 1078

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 10 = 20 Marks

1. Draw a neat labeled diagram of the muscle spindle. Explain how muscle tone is maintained in the body.
2. What are mineralocorticoids? What is their mode of action? Add a note on Conn's syndrome.

SHORT ESSAYS

10 x 5 = 50 Marks

3. Tabulate the differences between classical decerebration and Ischemic decerebration
4. Contents and functions of middle ear
5. Compare and contrast pyramidal and extra pyramidal systems
6. Mechanism of insulin action at cellular level
7. Accommodation reflex pathway. What is Argyll Robertsons Pupil?
8. What are functions of Hypothalamus?
9. What are the effects of hypophysectomy?
10. What are negative feedback loops?
11. Smell and taste are linked - explain
12. Differentiate between actions of Norepinephrine and Epinephrine

SHORT ANSWERS

10 x 3 = 30 Marks

13. Macular sparing
14. Explain the basis of polyphagia in diabetes mellitus
15. Feto-placental unit
16. Amacrine and Horizontal cells
17. Oxytocin
18. Inhibin
19. Endogenous pyrogens
20. Infertility in female
21. Features of myxoedema
22. Astrocytes

Rajiv Gandhi University of Health Sciences, Karnataka

First Phase MBBS Degree Examination – Dec 2013

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY-PAPER I (RS2 & RS3 SCHEME)

QP Code: 1077

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 10 = 20 Marks

1. Describe in detail the classification, characteristic features of 'hypoxia'.
2. Describe cardiac output. Give its normal resting value. How is it regulated?

SHORT ESSAYS

10 x 5 = 50 Marks

3. Define facilitated diffusion and describe the factors affecting it
4. List the functions of upper respiratory tract
5. Define 'innate immunity'. Mention the factors that contribute to the same
6. Explain the consequences of mismatched blood transfusion.
7. Describe the factors which regulate Glomerular Filtration Rate
8. Describe the histological changes observed in the distal end of a cut nerve fiber
9. Briefly outline the regulation of salivary secretion.
10. Describe the regulation of secretion of hydrochloric acid in stomach.
11. Mention the ionic basis of 'pacemaker potential'
12. Define 'mean arterial pressure' and explain the importance of maintaining it.

SHORT ANSWERS

10 x 3 = 30 Marks

13. List two anabolic hormones explaining their actions.
14. Give the representative values of blood indices in person with iron deficiency anemia.
15. Mention the causes & site of fatigue in skeletal muscle.
16. Briefly explain 'enterohepatic circulation' & its functional importance.
17. Outline the differences in the reabsorption of water in PCT from that of DCT.
18. Draw a labeled diagram of 'micturition reflex' in an adult
19. State Mary's Law
20. List the effects of vagal stimulation on heart
21. Define functional residual capacity. State its importance.
22. Give the nerve supply & functional importance of diaphragm.

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Rajiv Gandhi University of Health Sciences, Karnataka

First Phase MBBS Degree Examination – Dec 2013

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY-PAPER II (RS2 & RS3 SCHEME) QP Code: 1078

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 10 = 20 Marks

1. Draw a neat labeled diagram of 'fast pain' pathway from left lower limb. Explain 'referred pain'.
2. Describe the physiological actions & regulation of secretion of insulin.

SHORT ESSAYS

10 x 5 = 50 Marks

3. Give the principal connections & functions of 'cerebro cerebellum'.
4. Explain how human ear discriminates different intensities of sound
5. List the features of 'Kluver-Bucy syndrome'
6. Give the source, target organ/s and actions of 'calcitriol'
7. Draw the pathway for 'indirect light reflex'
8. List the functions of prefrontal lobe.
9. Explain the role of hypothalamus as an endocrine organ
10. With example/s explain 'positive feedback' control of hormone/s
11. Neural pathway & the physiological role of olfaction.
12. Explain how the epinephrine secretion is regulated.

SHORT ANSWERS

10 x 3 = 30 Marks

13. Enumerate retinal receptors and give their functions.
14. Explain the basis of polyuria in diabetes insipidus
15. Contraceptive measures in a female.
16. Draw an audiogram of a normal individual and compare it with that of a person with 'conduction deafness'
17. Explain the effect of individual sex steroids on mammary gland development
18. Klinefelter's syndrome
19. Physiological mechanisms of heat loss
20. Explain the physiological basis of any ONE test to investigate the cause of infertility in a male
21. Features of acromegaly.
22. Microglia

Rajiv Gandhi University of Health Sciences, Karnataka

First Phase MBBS Degree Examination – Dec 2013

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY-PAPER I (REVISED SCHEME)

QP Code: 1053

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 9 = 18 Marks

1. Describe the various stages of Erythropoiesis.
2. Describe the circulatory changes to moderate blood loss.

SHORT ESSAYS

10 x 5 = 50 Marks

3. Describe the intrinsic pathway of clotting
4. Describe the regulation of pancreatic secretion
5. Describe the transport of O₂ in blood
6. Describe the mechanism of auto regulation of coronary blood flow
7. Describe the role of baroreceptors in regulation of blood pressure
8. Describe the role of the kidney in acid-base balance
9. Describe the factors influencing gastric emptying.
10. Describe the mechanism of glucose reabsorption in the kidney
11. Explain Einthoven's Law
12. Describe the characteristic features of cutaneous circulation

SHORT ANSWERS

16 x 2 = 32 Marks

13. Importance of QT interval of ECG
14. Explain the principles of cardiac resuscitation
15. How does "Valsalva Manoeuvre" affect circulation?
16. Define 'tidal volume' and 'anatomical dead space'. Give normal values
17. Explain the chemical control of respiration
18. State the differences between pre hepatic and post hepatic jaundice
19. What are anticoagulants? Give examples.
20. Give the normal concentration and function of albumin
21. Explain 'achalasia cardia'
22. Explain the actions of 'Gastrin'
23. Enumerate the functions of bile.
24. What is 'mass peristalsis'? What is its cause?
25. What is the physiological significance of intrinsic factor?
26. Write the functions of 'endoplasmic reticulum'
27. Give the factors influencing 'simple diffusion'
28. What is creatinine clearance test? What is its significance?

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Rajiv Gandhi University of Health Sciences, Karnataka

First Phase MBBS Degree Examination – Dec 2013

Time: Three Hours

Max. Marks: 100 Marks

PHYSIOLOGY-PAPER II (REVISED SCHEME)

QP Code: 1054

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS

2 x 9 = 18 Marks

1. Describe the physiological role of glucocorticoids
2. Describe the principal connections & functions of hypothalamus.

SHORT ESSAYS

10 x 5 = 50 Marks

3. Identify the language areas of the brain & explain their specific role.
4. Describe the functions of reticular formation
5. Discuss the endometrial changes & hormonal control of 'proliferative phase' of menstrual cycle.
6. Explain the factors influencing 'spermatogenesis'
7. Describe the cause & features of 'myxedema'
8. Enumerate the physiological actions of catecholamines
9. Describe the features & physiological basis of Parkinsonism.
10. Describe the functions of 'otolith organs'.
11. Compare and contrast skeletal muscle with cardiac muscle
12. Describe the conduction of nerve impulse in a non-myelinated nerve fiber

SHORT ANSWERS

16 x 2 = 32 Marks

13. What is nyctalopia? Give its physiological basis.
14. Explain the image formation and the method of correction in a 'hypermetropic eye'
15. How is 'conduction deafness' differentiated from 'nerve deafness'
16. Give the sources, target organs and actions of gonadotropins.
17. Give, the source, target organs & the actions of calcitriol
18. Explain the importance of knowing the chemical nature of a hormone to a clinician.
19. Explain the regulation of insulin secretion
20. Mention the role of 'astrocytes'.
21. Explain the cause and the physiological basis of cure of 'myasthenia gravis'
22. Explain the basis of 'resting membrane potential'
23. Enumerate the thermoregulatory changes when a person is exposed to 20 degree centigrade
24. Enumerate the functions of the skin.
25. Explain Renshaw cell inhibition
26. Draw the neural circuit for crossed extensor reflex
27. Explain the effects of unilateral lesion of 'dorsal nerve roots'.
28. Explain the mechanism and purpose of 'adaptation' observed in certain sensory 'receptors'
