

MUHS MBBS QUESTION PAPERS

PHYSIOLOGY PART 1

SUMMER 2014

Paper 1

(2 ½ hours)

Total marks : 40

SECTION – B

2. Brief answer question : (any 6 of 7)

(6x4=24)

- a) Enlist the properties of cardiac muscle. Describe the ionic basis of autorhythmicity in S.A.Node.
- b) Enlist the phases of deglutition. Describe the pharyngeal phase of deglutition.
- c) Describe the stages of spermatogenesis and enlist the factors controlling spermatogenesis.
- d) Draw and label oxygen dissociation curve. Add a note on Bohr's effect.
- e) Describe the mechanism of secretion of HCL by partial cell gastric glands.
- f) Enlist the methods of contraception in females. Add a note on safe period as a method of contraception.
- g) Describe the features affecting the composition of alveolar air.

SECTION – C

3. Long answer question : (Any 2 of 3)

(2x8=16)

- a) Describe the composition, functions and regulations of pancreatic juice secretion.
- b) Describe the total body circulatory and respiratory readjustments during moderate muscular exercise.
- c) Describe the mechanism of action and regulation of secretion of thyroid hormones. Add a note on endemic goiter.

MAY/JUNE 2013

Paper 1

(2 ½ hours)

Total marks : 40

SECTION –B

2. Brief answer question : (any 6 of 7)

(6x4=24)

- a) Describe ECG in lead II.
- b) Oxygen debt.
- c) Describe movements in small intestine. What is peristaltic rush?
- d) Describe the various changes that occurs at high altitude-Acclimatisation.
- e) Describe metabolic actions of growth hormone.
- f) Define and classify circulatory shock. Enumerate physiological principles of management.
- g) Describe mechanism of secretion of HCL in stomach. Add a note on peptic ulcer.

SECTION – C

3. Long answer question : (any 2 of 3)

- a) Describe various phases of menstrual cycle. Discuss it's hormonal control.
- b) Define blood pressure. Discuss the long term regulation of blood pressure.
- c) Describe respiratory membrane and factors affecting gaseous exchange across respiratory membrane.

WINTER 2012

Paper 1

(2 ½ hours)

Total marks : 40

SECTION – B

2. Brief answer questions (any 6 of 7) :

(6x4=24)

- a) Explain the role of Juxtaglomerular apparatus in regulation of blood pressure.
- b) Define and classify Hypoxia. Describe Hypoxic-Hypoxia.
- c) What are the different ways of heat loss from the body? Add a note on heat stroke.
- d) Mechanism of secretion of HCL in stomach. Add a note on heat stroke.
- e) Describe spermatogenesis and factors affecting it.
- f) Describe physiological actions of growth hormone on metabolism in the body.
- g) What is surfactant? State its functions. Add a note on Respiratory distress syndrome.

SECTION – C

3. Solve 2 of 3 :

(2x8=16)

- a) What is the importance of calcium in the body? Explain the regulation of calcium level. Add a note on tetany.
- b) Define and classify shock. Describe the compensatory stage of circulatory shock and physiological basis of its management.
- c) Explain nervous regulation of respiration. Write a note on Ondine's curve.

WINTER 2011

Paper 1

(2 ½ hours)

Total marks : 40

SECTION – B

2. Brief answer question : (any 6 of 7)

(6x4=24)

- a) Enumerate the factors which increase insulin secretion. What is the effect of insulin to promote growth ?
- b) Describe the transport of carbon dioxide in blood. What is Haldane effect?
- c) Describe stage II of deglutition reflex. What is the importance of deglutition reflex?
- d) Describe the response of the body when exposed to extreme cold.
- e) Describe the physiological changes occurring during pregnancy.
- f) Describe the peculiarities of coronary circulation. What is angina pectoris ulcer.
- g) Describe the effects of exercise on respiration. What is VO₂ max?

SECTION –C

3. Solve 2 of 3 :

(2x8=16)

- a) Enumerate different gastric glands, their secretion and function. Describe the physiological basis of treatment of peptic ulcer.
- b) Enumerate the hormones secreted by adrenal cortex. Describe factors regulating secretion of aldosterone.
- c) Describe the events in cardiac cycle occurring in the ventricles.

MAY/JUNE 2011

Paper 1

(2 ½ hours)

Total marks : 40

SECTION – B

2. Brief answer questions : (any 6 of 7)

(6x4=24)

- a) Explain the movements of large intestine. Add a note on defecation reflex.
- b) Explain the work of breathing. Add a note on its applied importance.
- c) Name the different thermoreceptors. Explain body mechanisms in response to exposure to hot environment.

- d) Enumerate various GIT hormones. Write a note on gastrin.
- e) Describe tissue fluid formation.
- f) Write answers on :
 - i) Diabetes insipidus.
 - ii) Cushing's syndrome.
- g) Temporary method of contraception.

SECTION – C

3. Solve any 2 of 3 :

(2x8=16)

- a) Describe regulation of calcium level in the body. Add a note on osteoporosis.
- b) Define and classify circulatory shock. Describe the progressive stage of shock.
- c) Describe nervous regulation of respiration. Add a note on ondiene's curve.

NOV/DEC 2010

(2 ½ hours)

Paper 1

Total marks : 40

SECTION – B

2. Brief answer questions : (any 6 of 7) :

(6x4=24)

- a) Explain Renin-angiotensin mechanism.
- b) Describe regulation of gastric motility.
- c) Describe maternal changes in last trimester of pregnancy.
- d) Explain physiological basis of odema.
- e) Define functional residual capacity. What its physiological significance ?
- f) Explain the mechanism of heat loss from the body.
- g) Describe factors affecting caloric requirement in a thirty year old female.

SECTION – C

3. Solve any 2 of 3.

(2x8=16)

- a) Define ECG. Explain ECG as seen in lead II with a neat labelled diagram. Add a note on heart block.
- b) Describe the hormonal regulation of physical and mental growth. Add a note of differences between pituitary and a thyroid dwarf.
- c) Describe the mechanism of pulmonary ventilation. Add a note on positive pressure breathing.

MAY/JUNE 2010

Paper 1

Total marks : 40

(2 ½ hours)

SECTION – B – (SAQ)

2. Brief answers (any 6 of 7) :

(6x4=24)

- a) Explain mechanism of ovulation and describe 'rhythm method' of contraception.
- b) What is heart block ? Enlist types of heart block. Explain atrioventricular nodal block.
- c) What is deglutition? Explain the pharyngeal state of deglutition.
- d) State the various method by heat loss occurs from the skin to the surrounding. Add a note on mechanism of sweating.
- e) Define heart rate. Explain increase in heart rate during moderate muscular exercise
- f) Explain the effect of acute and chronic exposure to low partial pressure of oxygen in inspired air on pulmonary ventilation.
- g) What is tetany? Name and explain science of Tetany. Write its treatment.

SECTION – C

3. Solve any 2 of 3 :

(2x8=16)

- a) Define mean arterial blood pressure. Enumerate various mechanism regulating arterial blood pressure. Describe baroreceptor mechanism.

b) State various layers of respiratory membrane. Describe the various factors that affects rate of gas diffusion through the respiratory membrane. Give principle of carbon mono oxide method for calculating oxygen diffusion capacity through it.

C) What is a composition of gastric juice ? Explain the mechanism of hydrochloric acid secretion by the stomach. State the factors that stimulate hydrochloric acid secretion.

NOV./DEC.2009

(2 ½ hours)

Paper 1

Total marks : 40

SECTION – B

2. Brief answers questions(any 6of 7)

(6x4=24)

- a)** Describe the various changes occurring during acclimatization to high altitude. Add note on acute mountain sickness.
- b)** What is the gastric emptying? Explain the various factors regulating it.
- c)** Give the composition of bile and the functions of bile salts.
- d)** Enumerate the functions of surfactant .Add note on its clinical significance.
- e)** Describe oxygen debt.
- f)** What is ovulation? Describe the methods of contraception used in women.
- g)** What is fick principle? Describe the method of cardiac output estimation using this principle.

SECTION-C

3. Solve any 2of 3

(2x8=16)

- a)** Describe the method of oxygen transport in the body.

b) Classify the mechanism of regulation of blood pressure. Explain briefly the short term regulation of blood pressure.

c) Describe the synthesis, regulation and functions of thyroid hormone .Add the note on hypothyroidism.

MAY/JUNE 2009

Paper 1

(2 ½ hours)

Total marks : 40

SECTION – B – (SAQ)

2. Write brief answers (any 6 of 7) :

(6x4=24)

a) Enumerate the properties of cardiac muscle. Explain why muscle cannot be tetanised.

b) Name the muscles of respiration. Describe the mechanism of breathing

c) Describe the function of bile salt in fat digestion and absorption.

d) What is cushing's syndrome? Describe its clinical features.

e) Describe the face of menstrual cycle.

f) Define hypoxia. What are the types of hypoxia ? Describe hypoxic hypoxia.

g) Describe the heat loss mechanism of the body.

SECTION – C –(LAQ)

3. Solve any 2 of 3 :

(2x8=16)

a) Define stroke volume, cardiac output, cardiac index , stroke volume index. Describe the factors affecting cardiac output

b) Enumerate the hormones secreted by anterior pituitary. Describe the physiological actions of growth hormone.

c) Give the composition of gastric secretion. Describe the functions and mechanism of secretion of hydrochloric acid.

NOV./DEC.2008

Paper 1

(2 ½ hours)

Total marks : 40

SECTION – B

2. Brief answer question (any 6 of 7) :

(6x4=24)

- a) Draw a neat, proportionate and labelled ECG complex. Explain bipolar limb leads.
- b) Describe the circulatory changes at birth.
- c) Define and classify hypoxia. Describe any one of them.
- d) Draw a neat labeled oxygen-haemoglobin dissociation curve. Enumerate factors shifting the curve of right. What is P50?
- e) Differentiate between Diabetes mellitus and Diabetes insipidus.
- f) Describe the bodily responses on exposure to cold environment. Mention the use of induced hypothermia .
- g) What are the movements of large intestine? Explain “defecation reflex’.

SECTION – C

3. Solve any 2 of 3 :

(2x8=16)

- a) Discuss various events occurring during cardiac cycle . Add a note on heart sounds.
- b) Describe the mechanism and regulation of hydrochloric acid secretion. Explain the basis of drugs used in the treatment of peptic ulcer.
- c) Describe the cyclical in the uterus during reproductive life. Write about its hormonal regulation.

MAY/JUNE 2008

Paper 1

(2 ½ hours)

Total marks : 40

SECTION – B

2. Write short answers (any 6 of 7) :

(6x4=24)

- a) Haldane effect.
- b) Role of Hypothalamus in temperature.
- c) Venous return.
- d) Cushing syndrome.
- e) Factors affecting stroke volume.
- f) Hormonal and uterine changes during menstrual cycle with the help of diagram.
- g) Absorption of fat.

SECTION – C

3. Solve any 2 of 3 :

(2x8=16)

- a) What is circulatory shock? Describe various stages of haemorrhagic shock. Give physiological basis of its management.
- b) Describe chemical control of respiration.
- c) Enumerate gastric secretions. Describe the mechanism and regulation of gastric acid secretion.

MAY/JUNE 2007

Paper 1

(2 ½ hours)

Total marks : 35

SECTION – B

2. Brief answer questions : (any 6 of 7)

(6x4=24)

- a) Give causes and physiological basis of treatment of peptic ulcer.
- b) What is parturition ? Explain role of oxytocin in parturition.
- c) Define hypoxia. Describe any one of them.
- d) Enumerate various gastrointestinal hormones. Write a note on cholecystokinin.
- e) Draw a labeled graph of oxygen-haemoglobin dissociative curve. Explain role of 2-3BPG.
- f) What is hypothermia ? Explain body mechanisms in response to cold.
- g) What is difference between isotonic and isometric exercise ? Explain the effect of isotonic exercise on blood pressure.

SECTION – C

3. Long answer Question (any 2 of 3)

(2x8=16)

- a) Enumerate hormones of pituitary gland.
Describe mechanism of action and function of growth function. Add a note on dwarfism.
- b) Define heart rate. What are the factors affecting and regulating heart rate ?
Explain
- c) What is lung compliance? Enumerate and explain the factors affecting lung compliance. Add a note on hyaline membrane disease.

JUNE/JULY 2006

Paper 1

(2 ½ hours)

Total marks : 35

SECTION – B

2. Write short answers any 5 of 6 :

(5x2=10)

- a) Describe the stages of spermatogenesis.
- b) Draw and label a diagram showing various lung volumes and capacities.
- c) What is Poiseuille's law ? Write its significance.
- d) what is Myxedema ? Write any four clinical features of Myxedema.
- e) Describe the process of milk letdown.
- f) Enumerate four important functions of placenta.

3. Solve any 2 of 3 :

(2x4=8)

- a) a) Describe the physiological actions of parathormone.
b) What is hypocalcemic tetany?
- b) a) Give the composition of pancreatic juice.
b) Describe the regulation of pancreatic juice.
- c) a) Describe the regulation of pancreatic juice.
b) Describe the method of its measurement.

SECTION – C

4. Long answers:

Draw and label a neat diagram of ECG in lead II. Explain various waves, intervals and their significance

09

OR

Enumerate the hormones of adrenal cortex. Describe in detail the action of glucocorticoids in the body

09

5. Answer any 2 of 3

(2x4=8)

- a) a) What is acclimatization?
 - b) What are cardio respiratory changes due to acclimatization at high altitude?
- b) a) What are the different stages of hypovolemic shock?
 - b) Describe the features of progressive stage of shock.
- c) a) Enumerate movements of the stomach.
 - b) Describe the factors regulating gastric emptying.

JULY/AUGUST 2005

Paper 1

Total marks : 35

(2 ½ hours)

SECTION – B

2. Write short answers any 5 of 6 :

(5x2=10)

- a) Enumerate various steps for synthesis of Thyroxine **1 ½**
- b) Functions of placenta. **1 ½**
- c) Draw and label various waves and intervals in lead II of ECG
- d) Ventilation-perfusion ratio **1**
- e) Mechanism of Hydrochloric acid (HCl) secretion in stomach **1**
- f) Anti-inflammatory effects of cortisol.

3. Solve any 2 of 3 :

(2x4=8)

- a) i) What are the causes of heart sounds ?
 - ii) Describe first & second heart sound
 - iii) What are murmurs ?
- b) i) Define hypoxia
 - ii) What are the important features of different types of hypoxia ?
 - iii) How will you treat hypoxia ?
- c) i) Enumerate the movements of small intestine.

SECTION – C

4. Enumerate various mechanism for regulation of arterial blood pressure. **(1x9=9)**
Discuss sino-aortic mechanism in detail.

OR

Describe Carbon dioxide transport in the body.

5. Answer any 2 of 3 :

(2x4=8)

- a) i) What are the actions of parathormone in the body?
ii) What is the tetany?
iii) How will you treat it?
- b) i) Define ovulation
ii) Describe the mechanism of ovulation
iii) What are anovulatory cycles ?
- c) i) What is Hyperthemia ?
ii) What is the physiological basis of treatment of hyperthermia ?
iii) What is heat stroke ?

JUNE/JULY 2004

Paper 1

(2 ½ hours)

Total marks : 35

SECTION –B

2. Write short answers to any 5 of 6 :

(5x2=10)

- a) Normal Electrocardiogram in lead – II
b) Pacemaker of heart.
c) Vital capacity.
d) Enlist mechanism of regulation of blood pressure.
e) Respiratory centres.
f) Functions of large intestine.

3. Solve any 2 of 3 :

(2x4=8)

- a) i) Define cardiac output and peripheral resistance.
- ii) Which are the factors affecting cardiac output?
- iii) Explain Fick's principle.
- b) i) What are the forms of carbon dioxide transport?
- ii) Explain role of haemoglobin in CO₂ transport.
- c) i) What are function of bile ?
- ii) What is enterophepatic circulation ?

SECTION – C

4. Describe the physiological actions and regulation of secretion glucocorticoids.

09

OR

4. Describe the actions of Testosterone. Add a note on spermatogenesis.

5. Answer any 2 of 3 :

(2x4=8)

- a) i) Mechanism of action of Antidiuretic hormone.
- ii) Hypothalamic control of oxytocin liberation.
- b) i) What is role of Hypothalamus as thermostat?
- ii) What is use of Hypothermia in clinical situations?
- c) i) Enumerate hormones secreted by placenta at different stages of gestation.
- ii) How a placental hormone is useful in early diagnosis of pregnancy?

OCTOBER 2003

Paper 1

(2 ½ hours)

Total marks : 35

SECTION – B

2. Write short answers (any 5 of 6) :

(5x2=10)

- a) Enumerate phases of cardiac cycle with durations.
- b) E.C.G. Leads
- c) Bainbridge Reflex
- d) Respiratory membrane
- e) Dead space
- f) Functions of saliva

3. Solve any 2 of 3 :

(2x4=8)

- a) i) Enumerate junctional tissues of Heart (specialized excitatory and conductive tissues)
 - ii) What is the role of A-V node and Purkinje fibres?
- b) i) Define intrapleural and Intra alveolar pressures.
 - ii) Explain the functional significance of intrapleural pressure. How is it measured ?
- c) i) Describe the composition of Exocrine Pancreatic juice.
 - ii) How is pancreatic secretion regulated?

SECTION – C

4. Describe the actions and regulations of secretions of Growth hormone. Add a note on Acromegaly.

09

OR

4. Describe the actions of ovarian hormones. Add a note on oral contraceptives.

09

5. Answer any 2 of 3 :

(2x4=8)

- a) Mechanisms of heat loss from body.
- b) i) Enumerate actions of Aldosterone
 - ii) How is Aldosterone secretion regulated ?
- c) i) How is lactation initiated ?

ii) What is mechanism of milk ejection ?

MAY 2003

Paper 1

(2 ½ hours)

Total marks : 50

SECTION – B

2. Write in brief (any 5) :

- a) Factors controlling venous return.
- b) Features of coronary circulation.
- c) Second Heart Sound.
- d) Functions of surfactant.
- e) Dyspnoea
- f) Bohr's Phenomenon

(5x2=10)

3. Solve any 2 of 3 :

- a) i) Draw and label oxygen dissociation curve.
 - ii) What is shift to left the curve ?
 - iii) Which factors shift the curve ?
- b) i) What are the types of shock ?
 - ii) Enlist immediate compensatory mechanisms in Non-progressive stage of shock.
- c) i) Enumerate the phases of deglutition.
 - ii) Describe the pharyngeal stage in detail.
 - iii) How is this phase regulated ?

08

SECTION – C

4. Describe the biosynthesis and action of Thyroxine. Add a note on Myxedema.

09

OR

4. Describe the phases and hormonal control of menstrual cycle. **09**

5. Answer (any 2 of 3) : **08**

- a) Cushing's syndrome – cause, features, treatment.
- b) Milk ejection reflex.
- c) Enumerate four Gastro intestinal hormones. Write their functions in brief.

October, 2002

Paper 1

Total marks : 35

(2 ½ hours)

SECTION – B

2. Write short answers (any 5) : **10**

- 1) Enumerate centres for body temperature regulation in hypothalamus.
- 2) Mention functions of oxytocin.
- 3) Enumerate functions of saliva and mention its role in digestion.
- 4) Draw and label diagram showing origin and spread of cardiac impulse.
- 5) Mention functions of surfactant.
- 6) Classify hypoxia : What is hypoxic hypoxia ?

3. Attempt any 2 : **08**

- 1) a) Enumerate the hormones secreted by the anterior pituitary.
b) What are the physiological actions of growth hormone?
c) What is Acromegaly ?
- 2) a) State the humoral factors regulating respiration.
b) Explain role of peripheral chemoreceptors.
c) Define respiratory acidosis and alkalosis.
- 3) a) What is the composition of gastric juice?
b) What are functions of HCl?
c) State physiological basis of treatment of peptic ulcer.

SECTION – C

4. Describe a cardiac cycle stating various phases, pressure changes, volume changes, heart sounds and E.C.G. 09

OR

4. What is cardiac output? How is it regulated? Give any one method of its measurement in man. 09

5. Attempt any 2 :

- 1) a) Define menstrual cycle.
b) Describe various phases with its hormonal regulation.
- 2) a) What is spermatogenesis?
b) Mention hormonal factors affecting spermatogenesis.
- 3) a) Which hormones are secreted by endocrine pancreas.
b) What is role of insulin in Metabolism ?

08

May 2002

(2 ½ hours)

Paper 1

Total marks : 35

SECTION – B

2. Write short answers to any 5: 10

1) Enumerate the hormones produced by anterior pituitary. Mention releasing hormones from hypothalamus regulating hormones of anterior pituitary.

2) Mention any four digestive enzymes for proteins in gastro intestinal tract.

3) What are the mechanisms of heat production in the body in response to cold?

- 4) Enumerate stages of spermatogenesis.
- 5) Draw diagram showing pressure changes in cardiac cycle, co-relating heart sounds and E.C.G. changes with them.
- 6) Define cyanosis.

3. Attempt any 2 :

- 1) a) What are various centres for respiratory regulation?
b) Explain the role in regulation of respiration.
c) Define : Respiratory acidosis and alkalosis.
- 2) a) Explain the action of ADH.
b) What are the factors regulating ADH?
c) What is Diabetes insipidus?
- 3) a) What is cardiac output?
b) Mention factors affecting cardiac output.
c) Define hypovolemic shock.

08

SECTION – C

4. Define cardiac impulse. Describe the origin and propagation of cardiac impulse.

09

OR

4. Describe the lung volumes and capacities with their significance. How they are measured?

09

5. Attempt any 2:

- 1) a) Define deglutition.
b) Explain the second stage of deglutition with its regulation.
- 2) a) What is ovarian cycle?
b) Mention the hormonal regulation of ovarian cycle.
- 3) a) What is oxygen dissociation curve?
b) What are factors causing its shift to right?

