

August - 2009

[KV 702]

Sub. Code:4169

FIRST B.D.S DEGREE EXAMINATION

(Regulations for the candidates admitted from 2008-09 onwards)

Paper II – GENERAL HUMAN PHYSIOLOGY AND BIOCHEMISTRY

Q.P. Code: 544169

Time: Three hours

Maximum: 70 Marks

Answer Section A & B in SEPARATE Answer Books.

ANSWER ALL QUESTIONS

SECTION A

(HUMAN PHYSIOLOGY)

I. Essay: 1 x 15 = 15 Marks

1. Describe the structure of neuromuscular junction with the help of a diagram and explain the mechanism of transmission of nerve impulse across it.

II. Write Short Notes On: 3X 5 = 15 Marks

1. Functions of plasma proteins.
2. Milk ejection reflex.
3. Surfactant.

III. Short Answers questions: 3X 2 = 6 Marks

1. Two functions of kidney.
2. Two functions of synapse.
3. Two functions of gall bladder.

SECTION B

(BIOCHEMISTRY)

I. Essay: 1 x 15 = 15 Marks

1. Describe the biochemical functions, dietary requirement, sources and metabolism of calcium.

II. Write Short Notes On: 3X 5 = 15 Marks

1. Glycogen storage diseases.
2. Specialised products from tyrosine.
3. Ketogenesis.

III. Short Answers questions: 2X 2 = 4 Marks

1. Lipotropic factors.
2. Scurvy.

August 2010

[KX 702]

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Time: Three hours

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Answer Section A & B in SEPARATE Answer Books.

Answer ALL Questions

SECTION A

(HUMAN PHYSIOLOGY)

I. Essay:

1 x 15 = 15 Marks

1. How are Leucocytes classified? Describe the morphology properties and functions of each type of Leucocyte.

II. Write Short Notes on:

2x 5 = 10 Marks

1. Functions of Thalamus.
2. Electrocardiogram.

III. Short Answers questions:

5 x 2 = 10 Marks

1. Why the lactating female does not menstruate?
2. Name the major anions and cations in intracellular and extracellular fluids.
3. Artificial Respiration.
4. Juxtaglomerular Apparatus.
5. Compare and contrast first and second heart sounds.

SECTION B

(BIOCHEMISTRY)

I. Essay:

1 x 15 = 15 Marks

1. How is ammonia formed? Describe the reactions in the synthesis of urea.

II. Write Short Notes on:

2 x 5 = 10 Marks

1. Classification of Enzymes.
2. Ascorbic acid.

III. Short Answers questions:

5 x 2 = 10 Marks

1. Fluorosis.
2. Essential Fatty acids.
3. Substrate level phosphorylation.
4. Gout – Etiology and give two clinical features.
5. Plasma Calcium level.

February 2011

[KY 702]

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Paper II – GENERAL HUMAN PHYSIOLOGY AND BIOCHEMISTRY

Q.P. Code: 544169

Time: Three hours

Maximum: 70 Marks

Answer Section A & B in SEPARATE Answer Books.

Answer **ALL** questions

SECTION A

(HUMAN PHYSIOLOGY)

I. Essay: (1 x 15 = 15)

1. What is anemia? Classify the types of anemia on morphological and etiological basis. Add a note on red blood cell indices.

II. Write short notes on: (2 x 5 = 10)

1. Neural and chemical regulation of respiration.
2. Define cardiac output and factors regulating it.

III. Short Answers questions: (5 x 2 = 10)

1. Functions of liver.
2. Innervation of urinary bladder.
3. Define arterial blood pressure.
4. Structure of skeletal muscle.
5. Receptors of vision.

SECTION B

(BIOCHEMISTRY)

I. Essay: (1 x 15 = 15)

1. Describe the regulations of Blood glucose level. Add a note on diabetes mellitus and its biochemical investigations.

II. Write short notes on: (2 x 5 = 10)

1. Coenzymic forms, functions and deficiency manifestations of Vitamin B12.
2. Ketogenesis.

III. Short Answers questions: (5 x 2 = 10)

1. Gene mutation.
2. Allosteric Inhibition.
3. Name the aromatic amino acids.
4. Heparin.
5. Second messengers.

August 2011

[KZ 702]

Sub. Code : 4169

FIRST B.D.S. DEGREE EXAMINATION

GENERAL HUMAN PHYSIOLOGY AND BIOCHEMISTRY

Q. P. Code : 544169

Time : Three hours

Maximum: 100 Marks

Answer **ALL** questions

Answer Section A and B in Separate Answer Books

SECTION – A

(HUMAN PHYSIOLOGY)

I. Essay Questions: (1 x 20 = 20)

1. Name the Respiratory centres. Explain the Neural and Chemical regulation of Respiration.

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

1. Functions of Blood.
2. Cardiac Output.
3. Cretinism.
4. Functions of Placenta.
5. Functions of Kidney.

SECTION – B

(BIOCHEMISTRY)

I. Essay Questions: (1 x 20 = 20)

1. Describe in detail the chemistry, sources, RDA, metabolic role & deficiency manifestations of folic acid in the human body.

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

1. Biochemical Role of Vitamin K & its deficiency manifestations.
2. Glucose tolerance test.
3. Pathway of Gluconeogenesis from amino acids.
4. Dietary fibres and their role in human nutrition.
5. Classify Mutations with examples.

February 2012

[LA 653]

Sub. Code: 4169

FIRST B.D.S. DEGREE EXAMINATION

PAPER II – GENERAL HUMAN PHYSIOLOGY AND BIOCHEMISTRY

Q.P. Code: 544169

**Time : 3 hours
(180 Min)**

Maximum : 70 marks

**Answer ALL questions in the same order.
Draw Suitable diagrams wherever necessary
Answer Section A and B in Separate Answer Books**

**SECTION –A
(HUMAN PHYSIOLOGY)**

I. Elaborate on: **(1 x 10 = 10)**

1. Describe the intrinsic mechanism of coagulation.

II. Write notes on: **(5 x 5 = 25)**

1. Helper T cells.
2. Conducting system of heart.
3. Proteolytic enzymes of pancreatic juice.
4. Actions of thyroid hormones.
5. Refractive errors of eye.

**SECTION –B
(BIOCHEMISTRY)**

I. Elaborate on: **(1 x 10 = 10)**

1. Define and classify enzymes. List out and explain the factors influencing enzyme activity. Add notes on enzymes of clinical interest.

II. Write notes on: **(5 x 5 = 25)**

1. Deficiency manifestations of calcium, phosphorus and fluorine
2. Deficiency manifestations and hypervitaminosis of vitamin A
3. Tricarboxylic acid cycle
4. a. Normal values of Lipid profiles
b. Plasma lipoproteins
5. Classify proteins based on composition and solubility, function, shape and based on nutritional value.

[LB 653]

AUGUST 2012

Sub. Code: 4169

**FIRST YEAR B.D.S. DEGREE EXAM
PAPER II – GENERAL HUMAN PHYSIOLOGY
AND BIOCHEMISTRY**

Q.P.Code: 544169

Time: 180 Minutes

Maximum: 100 Marks

**Answer ALL questions in the same order
Draw Suitable diagrams wherever necessary
Answer Section A and B in Separate Answer Books**

**SECTION –A
(HUMAN PHYSIOLOGY)**

I. Elaborate on:

**Pages Time Marks
(Max.)(Max.)(Max.)**

- | | | | |
|--|----|----|----|
| 1. Define Erythropoiesis. Discuss in detail the factors affecting erythropoiesis. Add a note on anaemia. | 19 | 30 | 20 |
|--|----|----|----|

II. Write Notes on:

- | | | | |
|---|---|----|---|
| 1. Juxta – glomerular apparatus (JGA). | 3 | 10 | 5 |
| 2. Hormones and their actions of posterior pituitary. | 3 | 10 | 5 |
| 3. Functions of bile. | 3 | 10 | 5 |
| 4. Structure of platelets. | 3 | 10 | 5 |
| 5. Oxygen – hemoglobin dissociation curve. | 3 | 10 | 5 |
| 6. Active transport across the cell membrane. | 3 | 10 | 5 |

**SECTION –B
(BIOCHEMISTRY)**

I. Elaborate on:

- | | | | |
|--|----|----|----|
| 1. What are water soluble vitamins? Discuss the Chemistry, Sources, requirements functions and deficiency manifestations of Vitamin C. | 19 | 30 | 20 |
|--|----|----|----|

II. Write Notes on:

- | | | | |
|-----------------------------------|---|----|---|
| 1. Essential fatty acids. | 3 | 10 | 5 |
| 2. GTT. | 3 | 10 | 5 |
| 3. Maintenance of plasma calcium. | 3 | 10 | 5 |
| 4. Liver function test. | 3 | 10 | 5 |
| 5. Gout. | 3 | 10 | 5 |
| 6. Urea Cycle. | 3 | 10 | 5 |

[LC 653]

FEBRUARY 2013

Sub. Code: 4169

**FIRST YEAR B.D.S. DEGREE EXAM
PAPER II – GENERAL HUMAN PHYSIOLOGY
AND BIOCHEMISTRY**

Q.P.Code: 544169

Time: 180 Minutes

Maximum: 70 Marks

**Draw Suitable diagrams wherever necessary
Answer Section A and B in Separate Answer Books**

**SECTION –A
(HUMAN PHYSIOLOGY)**

I. Elaborate on: (1x10=10)

1. Define Glomerular Filtration Rate (GRF).What is the normal value?
Discuss the various factors regulating GFR.

II. Write notes on: (5x5=25)

1. Movements of small intestine.
2. Functions of skin
3. Reticulo- endothelial system(RES)
4. Formation and functions of surfactant
5. Properties of cardiac muscle.

**SECTION –B
(BIOCHEMISTRY)**

I. Elaborate on: (1x10=10)

1. Explain transamination and deamination for the liberation of ammonia and urea cycle for its utilization. Add a note on the regulation of urea cycle.

II. Write notes on: (5x5=25)

1. Functions, sources and diseases of Vitamin D
2. Factors regulating plasma calcium level
3. Essential amino acids
4. Classification of mutations with examples
5. Kidney function tests

[LD 653]

AUGUST 2013

Sub. Code: 4169

**FIRST YEAR B.D.S. DEGREE EXAM
PAPER II – GENERAL HUMAN PHYSIOLOGY AND
BIOCHEMISTRY**

Q.P.Code: 544169

Time: 180 Minutes

Maximum: 70 Marks

**Draw Suitable diagrams wherever necessary
Answer Section A and B in Separate Answer Books**

**SECTION –A
(HUMAN PHYSIOLOGY)**

I. Elaborate on: (1x10=10)

1. Describe the regulation of arterial blood pressure.

II. Write Notes on: (5x5=25)

1. Functions of the thyroid hormones.
2. Composition and functions of pancreatic juice.
3. Draw and label the visual pathway.
4. Anatomical dead space and its determination.
5. Briefly discuss the endocrine functions of hypothalamus.

**SECTION –B
(BIOCHEMISTRY)**

I. Elaborate on: (1x10=10)

1. What is the normal serum calcium level? Elaborate on the maintenance of calcium homeostasis.

II. Write Notes on: (5x5=25)

1. Hormonal regulation of blood glucose level.
2. Ascorbic acid.
3. Dietary fibres & their role in human nutrition.
4. Phenylketonuria.
5. Transaminases.

**FIRST YEAR B.D.S. DEGREE EXAM
PAPER II – GENERAL HUMAN PHYSIOLOGY
AND BIOCHEMISTRY
Q.P Code: 544169**

Time: 180 Minutes

Maximum: 70 marks

**Draw Suitable diagrams wherever necessary
Answer section A and B in Separate Answer Books**

**SECTION – A
(GENERAL HUMAN PHYSIOLOGY)**

I. Elaborate on: (1X10=10)

1. What is haemostasis? Describe the intrinsic mechanism of blood coagulation. Add a note on bleeding disorders.

II. Write Notes on: (5X5=25)

1. Write about Saltatory conduction and its advantages.
2. Heart sounds
3. Define hypoxia. Explain its types.
4. Explain functions of Juxtaglomerular apparatus
5. Functions of Growth hormone

**SECTION – B
(BIOCHEMISTRY)**

I. Elaborate on: (1X10=10)

1. Write in detail about Tri Carboxylic Acid cycle with energetics.

II. Write Notes on: (5X5=25)

1. Biochemical functions of vitamin C
2. Gout
3. Renal function tests
4. Factors regulating plasma calcium level
5. Competitive inhibition

[LF 653]

AUGUST 2014

Sub. Code:4169

**FIRST YEAR B.D.S. DEGREE EXAM
PAPER II – GENERAL HUMAN PHYSIOLOGY
AND BIOCHEMISTRY**

Q.P Code: 544169

Time: 180 Minutes

Maximum: 70 marks

**Draw Suitable diagrams wherever necessary
Answer section A and B in Separate Answer Books**

**SECTION – A
(GENERAL HUMAN PHYSIOLOGY)**

I. Elaborate on: (1X10=10)

1. Describe the metabolic actions of Thyroid hormones. Add note on hypothyroidism.

II. Write Notes on: (5X5=25)

1. Erythrocyte sedimentation rate
2. Heart sounds
3. Functions of saliva
4. Vital capacity
5. Ovulation

**SECTION – B
(BIOCHEMISTRY)**

I. Elaborate on: (1X10=10)

1. Explain citric acid cycle and its energetic.

II. Write Notes on: (5X5=25)

1. Glycosaminoglycans
2. Enzyme classification
3. Functions, sources and diseases of vitamin A deficiency
4. Structure of transfer RNA
5. Ketone bodies

FIRST YEAR B.D.S. DEGREE EXAM
PAPER II – GENERAL HUMAN PHYSIOLOGY AND
BIOCHEMISTRY

Q.P Code: 544169

Time: 180 Minutes

Maximum: 70 Marks

Draw Suitable diagrams wherever necessary
Answer section A and B in Separate Answer Books

SECTION – A
(GENERAL HUMAN PHYSIOLOGY)

I. Elaborate on: **(1 x 10 = 10)**

1. Describe Neural regulations of respiration. Add a note on Vital capacity.

II. Write Notes on: **(5 x 5 = 25)**

1. Write a note on anticoagulants.
2. Define venous return. Explain about factors regulating venous return.
3. Physiology of pain.
4. Write a note on Cushing's syndrome.
5. Errors of refraction.

SECTION – B
(BIOCHEMISTRY)

I. Elaborate on: **(1 x 10 = 10)**

1. Name the ketone bodies. Explain in detail the formation, utilization and clinical conditions associated with ketone bodies.

II. Write Notes on: **(5 x 5 = 25)**

1. Disorders of tyrosine metabolism.
2. Glycolysis.
3. Classification of enzymes.
4. Biochemical functions of thiamine.
5. Serum calcium homeostasis.

[LH 653]

AUGUST 2015

Sub. Code: 4169

FIRST YEAR B.D.S. DEGREE EXAMINATION

PAPER II – GENERAL HUMAN PHYSIOLOGY AND BIOCHEMISTRY

Q.P. Code: 544169

Time : Three Hours

Maximum : 70 marks

Answer All Questions

Draw Suitable diagrams wherever necessary

Answer section A and B in Separate Answer Books

SECTION – A

(GENERAL HUMAN PHYSIOLOGY)

I. Elaborate on:

(1 x 10 = 10)

1. Enumerate the hormones secreted by the thyroid gland.
Describe the actions and regulation of secretion of thyroxine.

II. Write notes on :

(5 x 5 = 25)

1. Anticoagulants.
2. Conducting system of heart.
3. Formation and functions of CSF.
4. Composition and functions of Surfactant.
5. Oral Contraceptives.

SECTION – B

(BIOCHEMISTRY)

I. Elaborate on:

(1 x 10 = 10)

1. What is the normal blood glucose level?
Describe the hormonal regulation of blood sugar level and give the three features of Diabetes mellitus.

II. Write notes on :

(5 x 5 = 25)

1. Essential fatty acids.
2. Phenyl ketonuria.
3. Role of fluoride in dental health.
4. Niacin.
5. Classify mutations with examples.

[LI 653]

FEBRUARY 2016

Sub. Code: 4169

FIRST YEAR B.D.S. DEGREE EXAMINATION
PAPER II – GENERAL HUMAN PHYSIOLOGY AND BIOCHEMISTRY

Q.P. Code : 544169

Time : Three Hours

Maximum : 70 Marks

Draw Suitable diagrams wherever necessary
Answer section A and B in Separate Answer Books

SECTION – A
(GENERAL HUMAN PHYSIOLOGY)

I. Elaborate on: **(1 x 10 = 10)**

1. Define Blood pressure? Describe the factors maintaining blood pressure and add a note on short term regulation of arterial blood pressure?

II. Write Notes on: **(5 x 5 = 25)**

1. Factors affecting GFR.
2. Actions of glucocorticoids.
3. Pupillary light reflex.
4. Functions of thalamus.
5. Rh Incompatibility.

SECTION – B
(BIOCHEMISTRY)

I. Elaborate on: **(1 x 10 = 10)**

1. Describe in detail the chemistry, sources, requirements, metabolic functions and deficiency manifestations of Vitamin C.

II. Write Notes on: **(5 x 5 = 25)**

1. Glucose Tolerance Test (GTT).
2. Enzymes of clinical significance.
3. Dietary fibres and their role in human nutrition.
4. Structure and function of transfer RNA.
5. Renal function tests.
