

APRIL 2001

[KD 227]

M.Sc. (Non-Clinical) DEGREE EXAMINATION.

Preliminary (Common to all branches)

Paper II — PHYSIOLOGY AND BIOCHEMISTRY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

SECTION A — (60 marks)

(PHYSIOLOGY)

1. What is cardiac cycle? Enumerate the various events that occur during one cardiac cycle. Describe in detail the origin and spread of cardiac impulse. (20)
2. Give the composition and functions of the pancreatic juice. How is its secretion regulated? (20)
3. Write short notes on : (5 × 4 = 20)
  - (a) Sarcomere
  - (b) Glomerular filtration rate
  - (c) Lateral spinothalamic tract
  - (d) Parathormone
  - (e) Plasma proteins.

SECTION B — (40 marks)

(BIOCHEMISTRY)

4. Write in detail about the synthesis, metabolism, fate and clinical importance of cholesterol in the body. (20)
5. Write briefly on : (5 × 4 = 20)
  - (a) Ketone Bodies
  - (b) One carbon units
  - (c) Unsaturated fatty acids
  - (d) Gluconeogenesis
  - (e) Cardiac Enzymes.

SEPTEMBER 2002

[KH 227]

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Time : Three hours

Maximum : 100 marks

Answer ALL questions.

SECTION A — (60 marks)

(PHYSIOLOGY)

1. Define Blood Pressure. Give its normal values in an adult. Discuss in detail how Blood Pressure is regulated in the body. (2 + 2 + 16 = 20)

2. What are the hormones secreted by the Posterior (lobe) Pituitary gland. Discuss the action of any one in detail. (2 + 18 = 20)

3. Write briefly on : (5 × 4 = 20)

- (a) Glycosuria
- (b) Stages of Erythropoiesis
- (c) Defaecation reflex
- (d) Functions of cerebellum
- (e) Transport of oxygen by blood.

SECTION B — (40 marks)

(BIO CHEMISTRY)

4. Name the aromatic Amino-Acids. Describe the metabolism of Tyrosine including the inborn errors seen during the process. (20)

5. Write briefly on : (5 × 4 = 20)

- (a) Hyperglycemia
- (b) Poly unsaturated Fatty Acids
- (c) Creatine Phosphokinase
- (d) Serum calcium
- (e) Deficiency of Niacin manifestation.

**APRIL 2003**

**[KI 227]**

**Sub. Code : 2952**

M.Sc. (Non-Clinical) DEGREE EXAMINATION.

Preliminary

(Common to all branches)

Paper II — PHYSIOLOGY AND BIOCHEMISTRY

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

SECTION A — (60 marks)

(PHYSIOLOGY)

1. Describe the various parts of the respiratory tract giving their chief functions. How is respiration regulated? (20)
2. What is Haemostasis? Describe the process of the blood clotting mechanism in detail. Name two anti-coagulants and give their physiological basis of action. (20)
3. Write short notes on : (5 × 4 = 20)
  - (a) Rh-factor
  - (b) Heart sounds
  - (c) Plasma clearance
  - (d) Cerebellar functions
  - (e) Anti-diuretic hormone.

SECTION B — (40 marks)

(BIOCHEMISTRY)

4. Describe the synthesis and breakdown of Glycogen in the body. What are the hormones which regulate them? (20)
5. Write briefly on : (5 × 4 = 20)
  - (a) 'Good' cholesterol
  - (b) Ketone bodies
  - (c) Anti oxidants
  - (d) Heparin
  - (e) Ascorbic acid.

APRIL 2004

[KK 227]

Sub. Code : 2952

M.Sc. (Non-Clinical) DEGREE EXAMINATION.

Preliminary

(Common to all branches)

Paper II — PHYSIOLOGY AND BIOCHEMISTRY

Time : Three hours

Maximum : 100 marks

Sec. A & B : Two hours and  
forty minutes

Sec. A & B : 80 marks

Section C : Twenty minutes

Section C : 20 marks

Answer Sections A and B in SEPARATE Answer Books.

Answer Section C in the Answer Sheet provided.

SECTION A

(PHYSIOLOGY)

1. Discuss in detail the histology, development and secretions of Pituitary gland. Describe the effect of hypersecretion of Growth hormone. (15)

2. Write short notes on : (5 × 5 = 25)

(a) Surfactant.

(b) Cerebro spinal fluid.

(c) Tetany.

(d) Myopia.

(e) Permanent contraceptive devices.

SECTION B

(BIOCHEMISTRY)

3. What are enzymes? Describe enzyme action and factors influencing them. Describe biologically important enzymes. (15)

4. Short notes on the following : (5 × 5 = 25)

(a) Glycogen storage diseases.

(b) LDH

(c) Ketone bodies

(d) Liver function tests

(e) Kwashiorkor.