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(20518)

B.D.S.-I Prof.

Printed Pages : 3

Roll No. 6097015

5136(N)

B.D.S. Supply. & Main Examination, May-2018

HUMAN PHYSIOLOGY AND BIOCHEMISTRY

[BDS-02(N)]

Time : Three Hours] *[Maximum Marks : 35+35=70*

Note : (i) Attempt *all* questions.

(ii) Illustrate your answers with suitable diagram wherever necessary. Use separate copy for **Part–A** and **Part–B**.

Part–A

1. Describe the mechanism of HCl secretion and its regulation. 8

2. Define cardiac output. What are the determinants of Cardiac output. Discuss the factors affecting it. 8

3. Differentiate between the following : 3×3=9
   (a) Myopia and hypermetropia
   (b) Nephron and Neuron
   (c) Hyperthyroidism and hypothyroidism.

4. Write short notes on any *four* : 2½×4=10

(a) Neuromuscular Junction (NMJ)

(b) Fate of Haemoglobin

(c) Glomerular Filtration Rate (GFR)

(d) Menstrual Cycle

(e) Chemical regulation of respiration.

Part–B

Bio-Chemistry

5. Explain 'Glyogenesis' and 'Glycogenolysis' in details, showing all enzymes and coenzymes. 5+5=10

6. (a) How a molecule of 'lauric acid' (C=12) is completely oxidised in human body ? Write the energetics of this pathway. 6+3=9

(b) Explain protein synthesis in a bacterial cell under following headings- 2×4=8

(i) Initiation

(ii) Elongation

(iii) Termination

(iv) Post Translation Modifications

7. Write short notes on each of the following : 4+4=8

(i) Source, Functions, Requirement and Deficiancy Manifestation of vitamin-D.

(ii) Maintenance of Blood Glucose Level.

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5136(N)

B.D.S. Supply. & Main Examination, November-2018

HUMAN PHYSIOLOGY & BIOCHEMISTRY

[BDS-02(N)]

Time : Three Hours] *[Maximum Marks : 35+35=70*

Note : *(i) Attempt* ***all*** *questions.*

(ii) Illustrate your answers with suitable diagram wherever necessary. Use separate copy for **Part-A** *and* **Part-B.**

Part-A

(Human Physiology)

1. Draw well labeled diagram of neuro muscular Junction (NMJ). Give sequence of events across it during transmission of nerve impulse. 8

2. Name the hormones secreted by Pituitary Gland. Discuss the physiological action of growth hormone. 8

3. Differentiate between the following : 3×3=9

   (a) Type I and Type II skeletal muscle fiber

   (b) Fetal hemoglobin and adult hemoglobin

   (c) Rods and cones.

4. Write short note on any *four* – 2.5×4=10

   (a) Juxtaglomerular apparatus

   (b) Lung volumes and capacities

   (c) Plasma proteins

   (d) Functions of saliva

   (e) Oral-contraceptive

Part-B
(Bio-Chemistry)

1. Write all reactions of hexose monophosphate shunt pathway. Add a note on the metabolic significance of this pathway. 6+4=10

2. (a) How ketone bodies are synthesised and disposed off from human body ? Why they are increased in starvation and diabetes both ? 5+5=10

   (b) What are Plasma Buffers ? Add the note on the biochemistry of respiratory acidosis and respiratory alkalosis. 2+4=6

3. Write short note on any *three* of the following – 3×3=9

   (a) Gluconeogenesis

   (b) Figure of replicating DNA Showing all Enzymes

   (c) Secondary Structures of Proteins

   (d) Fluid Mosaic Model