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SARDAR PATEL UNIVERSITY
T.Y.B. Sc. (Biochemistry) – Vth Semester Examination (CBCS)
Friday, 22nd November 2013
10:30 a.m. to 1:30 p.m.
US05CBCH05: Human physiology and clinical endocrinology

Total Marks: 70

- Note: (1) Figures to the right indicate marks.
(2) Draw a neat and labeled diagram, wherever necessary.

Q.1 Choose the most appropriate answer from the four alternatives given: [10]

- 1 Which element slows down the aging process?
(A) Sodium (B) Calcium (C) Sulfur (D) Chlorine
- 2 Soil fix nitrogen but plant convert it in to
(A) Nitrogen bases (B) proteins and Amino acids (C) Nucleotides (D) none of them.
- 3 Respiratory Tract consist of following except:
(A) Alveolar duct (B) Pharynx (C) Larynx (D) Trachea
- 4 Angiotensin II is
(A) Octapeptide (B) Decapeptide (C) Pentapeptide (D) Di peptide
- 5 One complete heartbeat takes
(A) 0.8 seconds (B) 0.3 seconds (C) 1 seconds (D) 0.5 seconds
- 6 At rest the neuron cell membrane has
(A) +15mv (B) -70mv (C) +70mv (D) -15mv
- 7 Kidney helps in the formation of
(A) Sarcoplasm (B) Red blood cell (C) Cytoplasm (D) Pituitary cell
- 8 ANF released from
(A) Atria of heart (B) Nephrons of kidney (C) Liver lobules (D) Kidney
- 9 Thyroid stimulating hormones release from
(A) Pituitary gland (B) Thyroid gland (C) Para thyroid gland (D) Adrenal gland
- 10 Normal blood sugar level maintained by all except
(A) Insulin (B) T3T4 (C) ACTH (D) Aldosterone

Q.2 Answer any TEN from the following: [20]

1. What are various levels of structural organizations of human body?
2. Why life is not possible on stars and moon?
3. What is importance of "C" in the living system?
4. Define carbamino compounds.
5. Define Acidosis and Alkalosis.
6. Enlist the various phases of Respiration?
7. Which are the normal and abnormal components of urine?

8. Enlist the functions of nephron.
9. List out various structural proteins present in the skeletal muscle.
10. Differentiate between diabetes mellitus and diabetes insipidus.
11. Enlist the factors which regulate insulin secretion.
12. Differentiate between endocrine and exocrine glands.

- Q.3 (a)** Explain functions of immune system in brief. [4]
(b) Why iron is important for human body? Explain in detail. [6]

OR

- Q.3 (a)** Give a detail account on biological importance of pituitary hormones. [4]
(b) Discuss importance of "C", "H", "O" and Nitrogen in biological process. [6]

- Q.4 (a)** Explain importance [4]
(b) Discuss the role of hemoglobin as a biological buffer in detail. [6]

- Q.4 (a)** Discuss chloride shift in brief. [4]
(b) Write a note on mechanical phases of cardiac cycle. [6]

- Q.5** Give a brief account on nerve impulse transmission. [10]

OR

Discuss the functions of kidney in detail. [10]

- Q.6 (a)** Define diabetes mellitus, and enlist the cardinal symptoms. [4]
(b) Explain effect of insulin on lipid and carbohydrate metabolism. [6]

OR

- Q.6 (a)** Give a brief account on effect of T₃ and T₄ on utilization of O₂. [4]
(b) Write a brief account on complications of type 2 diabetes. [6]
