

(A-6) Seat No: _____

SARDAR PATEL UNIVERSITY**B. Sc. (Biochemistry) – Fifth Semester Examination (CBCS) (NC)**

Saturday,

14th May 2016

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]

- i. _____ is often called father of physiology.
 (a) Jean Fernel (b) Herman Boerthave (c) Alka Kindi (d) Willium Harvey
- ii. Which element is injected in to patient veins when there is emergency, especially during heart failure?
 (a) Magnesium (b) Calcium (c) Sodium (d) Potassium
- iii. Carbamino compounds are combination of _____.
 (a) C and NH₂ (b) C and NH₃ (c) C and Hb (d) CO₂ and Hb
- iv. One complete heart beat in human take _____ second.
 (a) 0.3 (b) 0.4 (c) 0.6 (d) 0.8
- v. T_{max} value of glucose is _____.
 (a) 1.5 mM (b) 75 mg (c) 320 mg (d) 700 mg
- vi. Sarcoplasmic reticulum release large amount of _____.
 (a) Sodium (b) Titin (c) Calcium (d) Nitrogen
- vii. Which of the following are structural proteins present in the skeletal muscles?
 (a) Nebulin (b) Titin (c) M and C line proteins (d) All of these
- viii. ANF is released from _____.
 (a) Heart (b) Liver (c) Lungs (d) Kidney
- ix. Which one of the following is biological amines?
 (a) ACTH (b) Adrenaline (c) Epinephrine (d) Both (b) and (c)
- x. LH and FSH both are _____ hormones.
 (a) Steroid (b) Peptide (c) Gangliosides (d) Monoamine

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

- i. Write names of any 4 systems of human body other than that was mentioned in Q.3.
- ii. Write functions of iron in human body.
- iii. Enlist examples of fourth tier elements.
- iv. What is cardiac cycle?

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- v. Write various phases of respiration.
- vi. Define partial pressure of gases.
- vii. Write examples of normal and abnormal constituents of urine.
- viii. What are the different types of muscles?
- ix. Differentiate between myosin and myoglobin.
- x. What T3, T4 and TSH stands for?
- xi. Differentiate between endocrine and exocrine glands.
- xii. Briefly explain role of receptors during hormonal action.

Q.3 Write examples of first, second and third tier elements. Discuss Biological importance of first tier elements in the human body. [10]

OR

Q.3 Mention various level of structural organizations that make up human body. Write general functions of Digestive, circulatory, Integumentary and musculoskeletal systems. [10]

Q.4 (a) Give comparison between metabolic and respiratory alkalosis. [5]
(b) Write a note on chloride shift. [5]

OR

Q.4 (a) Draw a labeled structure of human heart. [4]
(b) "Haemoglobin act as a biological buffer" Justify the statement. [6]

Q.5 (a) Draw labeled diagram of nephorn. [4]
(b) Describe mechanism of transmission of nerve impulses. [6]

OR

Q.5 (a) Write a note on GFR. [4]
(b) Discuss mechanisms of muscle contraction. [6]

Q. 6 (a) Classify Diabetes mellitus according to WHO. [4]
(b) Discuss functions of growth hormone. [6]

OR

Q. 6 (a) Write chemical classes of hormone. [4]
(b) Discuss any two life threatening complications due to hyperglycemic conditions. [6]
