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SARDAR PATEL UNIVERSITY

EXTERNAL EXAMINATION –NOVEMBER-2013

S.Y.B.Sc. Biochemistry.US03CBCH02

BIOPHYSICAL AND ENVIRONMENTAL BIOCHEMISTRY

DATE:- 21 /11/2013 **Total marks:70** **Time:2-30$_{pm}$ -5-30$_{pm}$**

Q-1. Answer the following: (1 mark each) **(10)**

1. Total body water in adult human is

a) 36-9lit b)26-39lit c)49-59lit d)30-40lit

2. Hyper osmality is observed for dehydration of

a) pure water b)body buffer c)saltes d) water and lipid

3. Emulsions is an example for the colloid

a)lyophilic b)lyophobic c)associate d)all

4. Which terminology refers strictly to the flow of the solvent

a) Osmosis b) Viscosity c) Diffusion d) Surface tension

5. Excretion of water is regulated by ---------- hormone

a) aldosterone b) ADH c) vasopressin d) b and c both

6. The formation of methylated form of arsenate is regarded as

a) Toxification b) Detoxification c) Poisonous d) None of above

7. Rigid shift is present for

a) Desktop centrifuge b) rotor c) Ultra centrifuge d) Centrifuge tube

8. Electrophoretic unit for paper electrophoresis is

a) Horizontal b) Cylindrical c) Verticle d) Any dimension

9.---------- is an example of semipermeable membrane.

a) plasma membrane b) Vacuoles c) whatman paper d) perchmentpaper

10. Maximum permissible limits of mercury in drinking water should not be more than

a) 0.01 ppm b) 0.01 mg% c) 0.001 ppm d) 0.001mg%

P.T.O

Q-2. Short questions : Answer any Ten **(20)**

1 Write general principle of metal toxicity.

2. Give sources of Arsenic.

3.Give symptoms of Lead poisoning on human

4.Define buffer and list different buffer used for electrophoresis.

5.What is molecular sieving?

6. Write the factors effecting on sedimentation rate of given biological molecule.

7.Write role of ADH

8.Write importance of H.H.equation

9.Define: viscosity and fluidity

10.List buffer system of human

11.What do you mean by crystalloids

12.Write significance of protective colloids

Q-3. Long Questions: (10 marks each) **(40)**

1. a)Define :semi permeability and explain significance of osmosis

b) Write an account on lyophobic colloids

OR

a) Discuss Donnan membrane equilibrium

b) Explain importance of surface tension

continue....

2.a) Write note on regulatory mechanism of water balance.

b) Write a brief account on electrolyte level and it's metabolism.

OR

a) Write note on acidosis.

b) Write a brief account on bicarbonate buffer system.

OR

3.a) Define colloids and explain its properties.

b) Discuss significance of viscosity.

3.a) Draw adiagram and explain types of rotors used in centrifugation process.

b) Derive equation for sedimentation..

OR

3. a) Give an account on Differential centrifuge to obtain various fractions from homogenate.

b) Draw a diagram for anElectrophoretic unit generally require for paper electrophoresis and explain technique.

4. Give an account on sources and toxico-kinetics for Arsenic

OR

4.Write on cyanide toxicity on human and its remedy.

**********Best luck**********

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