

SC

[5/A-12]

SEAT No. \_\_\_\_\_

No. of Printed Pages : 2

**SARDAR PATEL UNIVERSITY**

**External examination oct/nov 18**

**Biochemistry III semester**

**Paper code no. US03BCH02**

**Biophysical and environmental biochemistry**

**Date:6/12/18**

**Time: 2:0 pm-5:0pm**

**Total marks:70**

10

- 1) The respiratory acidosis is caused due to-----  
A] decrease in bicarbonate b] increase in carbonic acid  
C] increase in bicarbonate d] decrease in carbonic acid
- 2) Regulation blood pH is based on-----buffer system  
A]haemoglobin B]phosphate c] bicarbonate d] protein
- 3) Migration of the charged ions of the biological samples depends upon the \_\_\_\_\_ of buffer.  
A] viscosity b] osmosis c] ionic strength d] temperature
- 4) Electrodes of electrophoretic tank are made up of -----  
A]copper b] steel c]iron d]platinum
- 5) Swelling of dry Grapes is due to ----- process.  
A]viscosity b] osmosis c] surface tension d] temperature
- 6) Centrifugation is a separation technique based on the \_\_\_\_\_ of the biomolecule.  
A] charge b] pH c] amount d] molecular wt
- 7) -----is size of solutes in crystalloids  
A]  $1 \times 10^{-7}$  b]  $2 \times 10^{-5}$  c]  $1 \times 10^{-2}$  d]  $< 1 \times 10^{-7}$
- 8) Lead toxicity leads to malfunction of-----system  
A]embryo b]nervous c] respiratory d]digestive
- 9) High dose of arsenic leads to the..... Disease.  
A] Minamata. B]black-foot c].kidney stone d]none of the above
- 10) Emulsoid is example of ----- colloids  
A] association b]protective c] lyophobic d] lyophilic

[1]

[P.T.O.]

**Q.2 Answer in Short (any ten)**

20

- 1) What is the function of desktop centrifuge?
- 2) Classify - basic types of electrophoresis.
- 3) list the factors affecting on sedimentation rate of biomolecule.
- 4) Give flow diagram of water distribution in our body.
- 5) What is meaning of over hydration.
- 6) Draw the structure of water molecule
- 7) List role for the donnan membrane equilibrium
- 8) Enlist the properties of colloids
- 9) Define surface tension
- 10) Enlist remedy for lead toxicity.
- 11) Write on types of arsenate.
- 12) Write on remedy for cyanide toxicity

**Long questions**

40

- Q.3 A] Explain sources and toxic effect of cyanide on humans and animals 5  
B] Give an account on arsenic sources and symptoms of toxic effect. 5  
OR
- Q.3 A] Explain -sources and symptoms for lead toxicity 5  
B] Write an account on sources for mercury and toxic effect 5
- Q.4 A] Define-diffusion and explain it's biological importance. 6  
B] Give account on biological significance of viscosity. 4  
OR
- Q.4 A] Explain - types of colloids with examples. 6  
B] Give account on biological significance of surface tension. 4
- Q.5 A] Explain-how protein can be separated using paper electrophoresis . 6  
B] What is Centrifuge. Derive equation for sedimentation rate. 4  
OR
- Q.5 A] Define half electrolysis and Discuss factors affecting on migration of 4  
bio molecules in horizontal electrophoretic process.  
B] Classify and explain types of rotors with diagram. 6
- Q.6 Define buffer.Classify and give an account on body buffer system. 10  
OR
- Q.6 Define -dehydration and discuss types and signs for Dehydration. 10

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