

SARDAR PATEL UNIVERSITY

[50]

S.Y.B.sc. 3rd SEMESTER EXAMINATION JUNE 2022

BIOCHEMISTRY: US03CBCH22

TITLE: BIOPHYSICAL BIOCBEMISTRY

Date: 14/06/2022; Tuesday Time: 12:00 PM TO 02:00 PM TOTAL MARKS: 70

14/06/2022 - TUESDAY

Q.1 Select proper option from following MCQ.

[10]

- 1) ____ Fluid is maximum in our body?
a) ECF b) ICF c) ITF d) CSF
- 2) Obligatory losses are approximately ____ ml/day.
a) 600 b) 800 c) 1600 d) 2800
- 3) ____ is the main stimulus for thirst mechanism.
a) Water toxication b) dehydration c) over hydration d) all of these
- 4) ____ PH meter is the simplest of PH meter.
a) Null-detector type b) Direct reading type c) digital d) modern
- 5) ____ electrode is used as a standard electrode.
a) Reference b) glass c) high resistance glass d) all of these
- 6) ____ acid is the chief acid produced during oxidation in cells of our body
a) Pyruvic b) phosphoric c) sulphuric d) carbonic
- 7) Colloid particles imbibe a good amount of water is due to ____ property.
a) Dialysis b) ageing c) Tyndale effect d) coagulation
- 8) Gaseous exchange in plants and in animal is due to ____
a) Diffusion b) osmosis c) viscosity d) surface tension
- 9) ____ radioisotopes are used to study the exchange reaction takes place in bone
a) 45ca & 32p b) 13c & 14c c) 15N & 14c d) 131I & 133xe
- 10) Which of the following is based on excitation of solid or solution
a) scintillation counting b) GM counter c) autoradiography d) all of these

Q2. Fill in the blanks and true false

[8]

1. The bond angle in V shaped structure of water is _____.
2. Glass electrode contain ____ acid.
3. Oedema in tissues is biological significance of _____
4. _____ is based on the ability of radioisotopes to expose photographic emulsion.

True or false

5. Minimum excretory volume is about 100-200 ml/ 24 hours.
6. Normal ratio of phosphate buffer in plasma is 4:1.
7. Cell protoplasm in every cell exists in a colloidal state.
8. Radio isotopes are stable isotopes.

Q3. Answer in short. (Any ten)

[20]

1. Give reason: structure of water is V shape
2. Give reason: liquid water is not viscous but very fluid
3. What is amphipathic compound? Explain.
4. Define buffer.
5. What is acidosis?
6. What is alkalosis?
7. Define diffusion.
8. Define surface tension.
9. Define semi permeability.
10. What are isotopes and radioisotopes?
11. What is atomic and mass number?
12. What is half life of radio isotopes?

Q4. Long answer questions. (Any four) (8 marks each)

[32]

1. Explain colligative properties of water
2. Explain pure salt dehydration.
3. Explain PH meter in detail.
4. Explain titration curve and PKa of weak acid.
5. Explain biological importance of donnan mem. equilibrium
6. Explain properties of colloids.
7. Explain autoradiography in detail.
8. Explain scintillation counter.