

NI-104

December-2015

B.Sc., Sem.-III

Core Course-201 : Biochemistry

(Biophysics & Instrumentation)

Time : 3 Hours]

[Max. Marks : 70

1. (a) Explain any three chemical characteristics of H₂O in detail. **6**
(b) Explain buffer & its physiological importance in detail. **8**
OR
(a) Explain water as universal solvent. **6**
(b) Explain range of pH and factors affecting pH. **8**
2. (a) Give importance of viscosity and explain factors affecting it. **7**
(b) Explain methods for determination of Surface tension **7**
OR
(a) Write a note on Donnan membrane equilibrium. **7**
(b) Explain Van't Hoff's law of osmotic pressure. **7**
3. Explain principle and working of any **one** : **14**
(a) Gel filtration chromatography.
(b) Adsorption chromatography in detail.
(c) Explain any one Gel electrophoresis.
4. (a) Explain Beer-Lamberts Law in detail. **7**
(b) Give advantages and disadvantages of colorimeter and spectrophotometer. **7**
OR
Write a note on any **one** : **14**
(1) Monochromators.
(2) Working of Single Cell colorimeter.
5. (a) Define any **two** of following : **3**
(1) pH
(2) Acid
(3) Buffer

- (b) Define any **two** of the following : **3**
- (1) R_f
 - (2) Origin
 - (3) Mobile phase
- (c) Give Principle of any **four** of the following : **8**
- (1) Osmosis
 - (2) Viscosity
 - (3) Adsorption
 - (4) Spectrofluorimeter
 - (5) pH meter
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