

USBCT-C06 - Biochemistry Paper-II : Biophysical and Biochemical Techniques-I

P. Pages : 2

Time : Three Hours



GUG/W/24/11597

Max. Marks : 50

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- Notes : 1. All questions are compulsory.
2. All question carry equal marks.

- 1.** What is buffer? Explain the mechanism of buffer action by Henderson-Hasselbalch Equation. **10**

OR

- a) Discuss titration curve of weak acid. **2½**
- b) Write short note on buffer capacity. **2½**
- c) Discuss carbonate-bicarbonate buffer system of blood. **2½**
- d) Discuss determination of pH by pH meter. **2½**

- 2.** Discuss in detail application of UV-VIS spectrophotometry. **10**

OR

- a) Discuss Beer-lambert laws of light absorption. **2½**
- b) Explain the concept of chromophore. **2½**
- c) Write short note on monochromator. **2½**
- d) Give the applications of spectroflurometry. **2½**

- 3.** Give the principle and applications of gel filtration chromatography. **10**

OR

- a) Write short note on thin layer chromatography. **2½**
- b) Write in short detection techniques for paper chromatography. **2½**
- c) Discuss nature of partition forces in chromatography. **2½**
- d) Write short note on techniques of elution in column chromatography. **2½**

4. Discuss in detail principle and application of affinity chromatography. 10

OR

a) Discuss principle of ion exchange chromatography. 2½

b) Give the application of GCMS. 2½

c) Discuss in short Gas Chromatography. 2½

d) Write short note on HPLC. 2½

5. Attempt **any ten** from following.

a) Define isoelectric pH. 1

b) Protein acts as buffer true or false. 1

c) What do you mean by strength of acid? 1

d) Define extinction coefficient. 1

e) Define auxochrome. 1

f) Give two source of ultraviolet radiation used in spectrophotometry. 1

g) Define partition coefficient. 1

h) Define retention time. 1

i) Define mobile phase. 1

j) Give two example of resin used in ion exchange chromatography. 1

k) Give full form of GCMS. 1

l) Give one application of gas chromatography. 1
