

Seat No.	
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B.Sc. (Part - III) (Semester - V) Examination, January - 2023

CHEMISTRY (Paper - XII)

DSE-E8 : Analytical Chemistry

Sub. Code : 79685

Day and Date : Friday, 06 - 01 - 2023

Total Marks : 40

Time : 2.30 p.m. to 4.30 p.m.

- Instructions :
- 1) All questions are compulsory.
 - 2) Figures to the right indicate full marks.
 - 3) Draw neat diagrams and give equations wherever necessary.
 - 4) Use of scientific calculator and logarithmic table is allowed.

Q1) A) Answer the following in one sentence : [4]

- a) What are the advantages of digestion?
- b) Which is the device used for measuring response of photocell?
- c) What is the nature of the curve at end point, in potentiometric titration?
- d) Which is the stationary phase used in adsorption chromatography?

B) Choose the most correct alternative and rewrite the sentences. [4]

- a) In Flame emission photometers, the measurement of _____ is used for quantitative analysis.
 - i) Colour
 - ii) Intensity
 - iii) Velocity
 - iv) Frequency
- b) Beer's law is valid when _____
 - i) White light is used
 - ii) Temperature is kept constant
 - iii) Large amount of electrolyte is present
 - iv) Coloured solute forms complexes

P.T.O.

- c) _____ electrode is not used as indicator electrode in determination of pH of the solution.
- | | |
|---------------------|---------------------------|
| i) Glass electrode | ii) Quinhydrone electrode |
| iii) Zinc electrode | iv) Hydrogen electrode |
- d) In column chromatography the alumina used act as _____
- | | |
|--------------------|---------------------|
| i) Organic phase | ii) Adsorbent |
| iii) Aqueous phase | iv) Porous material |

Q2) Solve any two of the following : **[16]**

- Define precipitation and explain the essential requirements of good precipitation.
- Describe construction and working of quinhydrone electrode. Discuss its use in determination of pH of solution.
- What are the types of ion exchangers? Give the applications of ion exchange chromatography.

Q3) Solve any four of the following. **[16]**

- Write short notes on, Co-precipitation.
- Explain the terms transmission and optical density used in colorimetry. How are they related?
- Write a short note on, Photovoltaic cell.
- Write short notes on, Classification of chromatography.
- Give a brief account of mirrors and slits in flame photometry.
- Give a block diagram of simple flame photometer.

