

I B.TECH – EXAMINATIONS, JUNE - 2011
ANALYTICAL CHEMISTRY
(CHEMICAL ENGINEERING)

Time: 3hours

Max.Marks:80

Answer any FIVE questions
All questions carry equal marks

- - -

- 1.a) Differentiate between Co-precipitation & Post-precipitation.
b) Explain the principle involved in the determination of Nickel (Ni) by gravimetric analysis. [8+8]
- 2.a) Discuss the underlying principle in complexo-metric titration by taking the example of determination of calcium by EDTA.
b) Write a brief account on neutralization indicators. [8+8]
- 3.a) What is Beer-Lambert's law? Calculate the molar absorptivity if the solution of $1.25 \times 10^{-3} M$ had an absorbance of 0.250 with an optical length of 1 cm at 420 nm.
b) Give the quantitative applications of UV-visible spectrophotometer. [8+8]
4. Write short notes on:
a) Fermi Resonance
b) Overtones
c) Finger print region
d) Types of Vibrations. [4+4+4+4]
- 5.a) Explain the principle for strong Acid-strong Base titration by conducto-metrics (HCl vs NaOH)
b) Write short notes on Glass electrode. [8+8]
6. Explain the following:
a) Dropping Mercury Electrode
b) Half Wave Potential
c) Constant Current Coulometric analysis. [6+3+7]
- 7.a) Explain the principle and applications of thin layer chromatography.
b) Write short note on Batch Extraction. [8+8]
- 8.a) What is the principle of HPLC & give its applications?
b) Write about Flame Ionisation Detector in Gas Chromatography. [8+8]

I B.TECH – EXAMINATIONS, JUNE - 2011
ANALYTICAL CHEMISTRY
(CHEMICAL ENGINEERING)

Time: 3hours

Max.Marks:80

Answer any FIVE questions
All questions carry equal marks

- - -

- 1.a) What is Beer-Lambert's law? Calculate the molar absorptivity if the solution of $1.25 \times 10^{-3} M$ had an absorbance of 0.250 with an optical length of 1 cm at 420 nm.
- b) Give the quantitative applications of UV-visible spectrophotometer. [8+8]
2. Write short notes on:
- Fermi Resonance
 - Overtone
 - Finger print region
 - Types of Vibrations. [4+4+4+4]
- 3.a) Explain the principle for strong Acid-strong Base titration by conducto-metrics (HCl vs NaOH)
- b) Write short notes on Glass electrode. [8+8]
4. Explain the following:
- Dropping Mercury Electrode
 - Half Wave Potential
 - Constant Current Coulometric analysis. [6+3+7]
- 5.a) Explain the principle and applications of thin layer chromatography.
- b) Write short note on Batch Extraction. [8+8]
- 6.a) What is the principle of HPLC & give its applications?
- b) Write about Flame Ionisation Detector in Gas Chromatography. [8+8]
- 7.a) Differentiate between Co-precipitation & Post-precipitation.
- b) Explain the principle involved in the determination of Nickel (Ni) by gravimetric analysis. [8+8]
- 8.a) Discuss the underlying principle in complexo-metric titration by taking the example of determination of calcium by EDTA.
- b) Write a brief account on neutralization indicators. [8+8]

I B.TECH – EXAMINATIONS, JUNE - 2011
ANALYTICAL CHEMISTRY
(CHEMICAL ENGINEERING)

Time: 3hours

Max.Marks:80

Answer any FIVE questions
All questions carry equal marks

- - -

- 1.a) Explain the principle for strong Acid-strong Base titration by conducto-metrics (HCl vs NaOH)
- b) Write short notes on Glass electrode. [8+8]
2. Explain the following:
- a) Dropping Mercury Electrode
- b) Half Wave Potential
- c) Constant Current Coulometric analysis. [6+3+7]
- 3.a) Explain the principle and applications of thin layer chromatography.
- b) Write short note on Batch Extraction. [8+8]
- 4.a) What is the principle of HPLC & give its applications?
- b) Write about Flame Ionisation Detector in Gas Chromatography. [8+8]
- 5.a) Differentiate between Co-precipitation & Post-precipitation.
- b) Explain the principle involved in the determination of Nickel (Ni) by gravimetric analysis. [8+8]
- 6.a) Discuss the underlying principle in complexo-metric titration by taking the example of determination of calcium by EDTA.
- b) Write a brief account on neutralization indicators. [8+8]
- 7.a) What is Beer-Lambert's law? Calculate the molar absorptivity if the solution of $1.25 \times 10^{-3} M$ had an absorbance of 0.250 with an optical length of 1 cm at 420 nm.
- b) Give the quantitative applications of UV-visible spectrophotometer. [8+8]
8. Write short notes on:
- a) Fermi Resonance
- b) Overtones
- c) Finger print region
- d) Types of Vibrations. [4+4+4+4]

I B.TECH – EXAMINATIONS, JUNE - 2011
ANALYTICAL CHEMISTRY
(CHEMICAL ENGINEERING)

Time: 3hours

Max.Marks:80

Answer any FIVE questions
All questions carry equal marks

- - -

- 1.a) Explain the principle and applications of thin layer chromatography.
b) Write short note on Batch Extraction. [8+8]
- 2.a) What is the principle of HPLC & give its applications?
b) Write about Flame Ionisation Detector in Gas Chromatography. [8+8]
- 3.a) Differentiate between Co-precipitation & Post-precipitation.
b) Explain the principle involved in the determination of Nickel (Ni) by gravimetric analysis. [8+8]
- 4.a) Discuss the underlying principle in complexo-metric titration by taking the example of determination of calcium by EDTA.
b) Write a brief account on neutralization indicators. [8+8]
- 5.a) What is Beer-Lambert's law? Calculate the molar absorptivity if the solution of $1.25 \times 10^{-3} M$ had an absorbance of 0.250 with an optical length of 1 cm at 420 nm.
b) Give the quantitative applications of UV-visible spectrophotometer. [8+8]
6. Write short notes on:
a) Fermi Resonance
b) Overtones
c) Finger print region
d) Types of Vibrations. [4+4+4+4]
- 7.a) Explain the principle for strong Acid-strong Base titration by conducto-metrics (HCl vs NaOH)
b) Write short notes on Glass electrode. [8+8]
8. Explain the following:
a) Dropping Mercury Electrode
b) Half Wave Potential
c) Constant Current Coulometric analysis. [6+3+7]