

Code.No: R05010801

R05

SET-1

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

**Time: 3hours****Max.Marks:80**

**Answer any FIVE questions**  
**All questions carry equal marks**

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- 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]

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SET-2

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- Fermi Resonance
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SET-3

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**(CHEMICAL ENGINEERING)**

Time: 3hours

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**All questions carry equal marks**

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- 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]
  
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  - a) Fermi Resonance
  - b) Overtones
  - c) Finger print region
  - d) Types of Vibrations. [4+4+4+4]

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SET-4

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 b) Write short note on Batch Extraction. [8+8]
- 2.a) What is the principle of HPLC & give its applications?  
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