

## FOURTH SEMESTER B.TECH DEGREE EXAMINATION, JUNE 2011

## CH09404 - PHYSICAL &amp; ANALYTICAL CHEMISTRY

Time : Three Hours

Maximum: 70 Marks

## PART - A

1. What is catalysis?
2. What is Hydrogenation?
3. What is polarization?
4. Define diffusion current?
5. What is sono chemistry?

(5×2=10)

## PART - B

*Answer any four questions*

6. What are the two types of catalysis? Explain.
7. Explain the properties of these gangrings.
8. What is a half wave potential? Explain.
9. How solvents are extracted? Explain.
10. Write a note on sono chemical reactions.
11. What is oxidation? Explain with a suitable example.

(4×5=20)

## PART - C

12. (a) (i) Explain in detail about catalytic activity of oriented surfaces.  
(ii) Write a note on purification of colloids.  
(OR)  
(b) Explain the optical, electrical and Kinetic properties of colloids.
13. (a) Discuss in detail about potentiometric and conductometric titrations.  
(OR)  
(b) Discuss in detail about the following spectral analytical methods.  
(i) IR spectroscopy  
(ii) UV spectroscopy
14. (a) Explain the principle and Instrumentation of  
(i) Absorption chromatography  
(ii) ion exchange chromatography  
(OR)  
(b) Write a note on  
(i) Thermo gravimetric analysis  
(ii) Gas chromatography
15. (a) Discuss the various laws of photo chemistry.  
(OR)  
(b) (i) State the difference between photo chemical and thermal reactions.  
(ii) Explain any one sono chemical equipment with neat sketch.

(4×10=40)