

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

B. Pharm. Sem - IV Examination June- 2011

Subject code: 240004

Subject Name: Pharmaceutical Analysis-II

Date: 08/06/2011

Time: 10.30 am – 01.30 pm

Total Marks: 80

Instructions:

1. Attempt any five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

- Q.1** (a) What is zone-broadening? Discuss factors producing zone broadening and its minimization. **06**
(b) Explain validation and signal to noise ratio. Discuss in detail about advantages and limitation of instrumental method of analysis. **05**
(c) Define following terminology. **05**
(i) Capacity factor (ii) Resolution
(iii) Chromatography (iv) Leaching (v) HETP
- Q.2** (a) Explain in detail about types of paper chromatography. Describe applications of paper chromatography in pharmaceuticals. **06**
(b) Write a note on theories of chromatography. **05**
(c) Explain applications of thin layer chromatography. **05**
- Q.3** (a) Explain Kohlrausch law. Write a note on factor affecting conductance. **06**
(b) Give detailed classification of electroanalytical methods. Define calibration, accuracy, precision, robustness. **05**
(c) Conductivity of 0.1 M NaCl solution is 1.55 S cm^{-1} at 25°C . Solution of 0.1 M NaCl and 0.1 M BaSO_4 give resistance of 248.4 and 385.02 ohms. So calculate (i) cell constant (ii) equivalence conductance of 0.1 M BaSO_4 . **05**
- Q.4** (a) Write a short note on standard calomel electrode. Explain applications of potentiometry in pharmaceuticals. **06**
(b) Write in detail about dropping mercury electrode. **05**
(c) Enumerate various pulse polarographic techniques. Explain in detail about differential pulse polarography. **05**
- Q.5** (a) Write a short note on amperometric titration. **06**
(b) Define optical activity and specific rotation. Explain in detail about qualitative and quantitative applications of polarimetry. **05**
(c) Explain in detail about **05**
(i) limiting current (ii) Residual current
(iii) Migration current (iv) Diffusion current
- Q. 6** Write a short note on followings. **06**
(a) Differential scanning calorimetry **06**
(b) Differential thermal analysis. **05**
(c) Instrumentation of polarimetry. **05**
- Q. 7** (a) Write a note on separation mechanism of chromatography. **08**
(b) Write a short note on column chromatography. **04**
(c) Differentiate TLC and HPTLC. **04**
