

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY**M. Pharm. – SEMESTER – I • EXAMINATION – WINTER 2013****Subject Code: 910107****Date: 23-12-2013****Subject Name: Pharmaceutical Analysis-I****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 analytical method validation? Enlist different parameters and discuss any two in detail. **06**
 (b) Explain in detail the application of instrumental methods of analysis in the development of medicines. **05**
 (c) Discuss the importance of pharmaceutical analysis in pharmaceutical science. **05**
- Q.2** (a) Short note: Calibration and validation of instruments (a) UV Spectrophotometer, (b) IR Spectrophotometer **06**
 (b) How will you classify ion selective electrodes? Give the importance of ion selective electrode in drug analysis. **05**
 (c) Discuss in detail calibration and validation of HPLC. **05**
- Q.3** (a) Enumerate the methods used for analysis of excipients in solid state. Discuss application of any one in detail. **06**
 (b) Write down the principles involved in the use of N_1 -naphthyl ethylene diamine and *p*-dimethylaminobenzaldehyde. **05**
 (c) Write a short note on principles and procedures involved in physicochemical methods of analysis for dosage forms containing Barbiturates. **05**
- Q.4** (a) Describe importance of Folin - Ciocalteu and 2, 4-dinitrophenylhydrazine reagent in pharmaceutical analysis. Give principles involved in the use of both reagents in pharmaceutical analysis. **06**
 (b) Describe the various procedures for elemental analysis of (a) sodium and (b) sulphur. **05**
 (c) Enumerate the principle and procedures involved in use of ninhydrin in pharmaceutical analysis. **05**
- Q.5** (a) Describe methods useful for estimation of aldehydes and amines. **06**
 (b) Write down a note on principle and procedures involved in quantitative determination of hydroxyl groups. **05**
 (c) Explain the principle and procedure involved in various physicochemical method of analysis of various dosage forms containing sulpha drugs. **05**
- Q.6** (a) Discuss the methods involved in elemental analysis of chlorine, bromine and iodine. **06**
 (b) Write a note on methods for the estimation of glycosides of digitoxin. **05**
 (c) Define alkaloids. How will you estimate Cinchona alkaloids? Discuss in detail. **05**
- Q.7** (a) Enumerate various methods used for analysis of erythromycin and penicillin with principles. **06**
 (b) How will you estimate vitamins like vitamin C and B2? **05**
 (c) Discuss the analytical procedure used for the determination of steroidal drugs **05**
