

[Time: 3 Hours]

[ Marks:70]

Please check whether you have got the right question paper.

- N.B:**
1. All questions are **compulsory**.
  2. **Figures** to the **right** indicate **full marks**.
  3. **Draw neat labeled diagram wherever applicable**.

- Q.1 a. Explain concept of dosage form. 02  
 b. Discuss absorption of a drug by active transport. 02  
 c. How many aspirin tablets each containing 325mg aspirin may be prepared from 500gm of aspirin. 01  
 d. Explain the term-Rheology. 01  
 e. Give a note on types of syrups. 04
- OR**
- Give storage conditions for aromatic waters. Explain any two methods to prepare aromatic water.
- f. Elaborate on oral Rehydration powder. 02  
 g. Give pharmaceutical applications of complexes. 02  
 h. State Noyes-Whitney's equation. 01
- Q.2 a. Explain in brief rectal route of administration. 03  
 b. Give general features of Alternative Systems of medicine. 02  
 c. Discuss organoleptic properties of liquid dosage forms. 02  
 d. Give an account of closures for liquid formulations. 03
- OR**
- Discuss plastic as a packaging material for liquid dosage forms.
- e. Write in brief any one method of analysis of complexes. 01
- Q.3 a. Write GMP requirements for equipments. 02  
 b. Explain terms i) Pseudoplastic flow and ii) Thixotropy 02  
 c. Explain mixing of liquids using propeller **OR** paddle mixers. 02  
 d. List different methods of particle size analysis and explain any one method in detail. 04  
 e. Give Fick's First law of diffusion. 01
- Q.4 a. Classify dosage forms for external use. Give a note on mouthwash. 03  
 b. How many milligrams of each of tetracaine HCl , epinephrine HCl & cocaine HCl are needed to fill following 02  
 prescription
- |    |                                       |
|----|---------------------------------------|
| Rx | Tetracaine Hydrochloride.....0.75%    |
|    | Epinephrine Hydrochloride .....0.025% |
|    | Cocaine Hydrochloride .....3%         |
|    | Sodium Chloride.....q.s               |
|    | Sterile water q.s.....30ml.           |
- c. Explain with example role of stabilizing additives in liquid dosage forms. 02  
 d. Explain size separation by any one method of separation. 02  
 e. Write drug related factors affecting dissolution of dosage forms. 02

- Q.5 a) Write a note on historical development of pharmacy profession. 02  
b) Explain principle of measuring viscosity of liquid formulation by Ostwald's viscometer. 02  
c) Define filtration. Give a note on filter media. 03  
d) Explain principle and working of fluid energy mill OR Ball mill. 04
- Q.6 a) Mention different editions of I.P and write the features of current edition. 03  
b) Explain terms- Peak plasma concentration ( $C_{max}$ ) 02  
Time of peak concentration ( $t_{max}$ ).  
c) Discuss filling operation of large scale liquid manufacturing process. 04  
d) How will you measure flow properties of powder by Angle of repose. 02