

Time: 3Hrs

Marks: 80

N.B

1. All questions compulsory
2. Answer all sub questions together
3. Draw neat labeled diagrams wherever necessary

Q.1 Answer the following

- i. write a note on Gibb's equation and surface free energy. 3M
- ii. write the importance of particle size determination in suspension. 2M
- iii. Enlist the physicochemical factors affecting skin penetration. 2M
- iv. Write a brief note on gel. 3M
- v. Define suppository with example. 2M
- vi. Write four desirable features of pharmaceutical Aerosols. 3M
- vii. Discuss formulation consideration of aerosol system. 3M
- viii. Define cosmetic with example. 2M

Q.2 Answer the following

- i. Give significance of zeta potential and Schulz Hardy rule in suspension formulation. 4M
 - ii. Define rheology and Elaborate on rheological aspects of semisolid. 4M
 - iii. Discuss in detail about the components of valve assembly. 4M
- or**
- iii Write a note on Dry Powder inhaler.

Q.3 Answer the following.

- i. Discuss the formulation of any one official preparation of suspension. 4M
- or**
- i Describe various quality control tests for suspensions.
 - ii. Give a brief idea about chemical penetration enhancer. 3M
 - iii. Discuss the desirable features of suppository bases. 3M
 - iv. Discuss with examples antioxidants used in cosmetics. 2M

Q4. Answer the following

- i. Discuss the significance of Ostwald ripening in suspension. 3M
- ii. Explain any two method of emulsifier selection. 4M
- iii. Define Pastes. 2M
- iv. Write a note on different labelling criteria for cosmetics. 3M

Q5. Answer the following.

- i. Give an account of raw materials used in manufacture of emulsion. 3M
- Or**
- i. Short note on any one method of preparation of emulsion. 3M
 - ii. Write a short note on ointment bases. 3M
 - iii. Write a short note on container of aerosol. 3M
 - iv. Give brief idea about sensorial evaluation of cosmetics. 3M

Q6. Answer the following.

- i. Explain the DLVO theory of suspensions with suitable diagram. 3M
- ii. Elaborate large scale manufacturing of suppository in brief. 4M
- iii. Discuss in brief about meter dose valve. 3M
- iv. Write the role of antioxidant in cosmetics with two example. 2M

Or

- iv. Write the role of perfumes in cosmetics with two example
