

Time: 3 Hours

Marks: 80

**N. B.: (1) All questions are compulsory.****(2) Figures to the right indicate full marks.****(3) Draw neat labelled diagram wherever necessary.**

- Q.1 (a) Elaborate on the desirable features of an emulsion. 3  
 (b) Enlist the evaluation tests of suspensions. 2  
 (c) Comment on any one pathway for drug penetration through skin. 2  
 (d) Classify ointment bases giving examples and describe anyone in detail. 3  
 (e) Explain any two physiological factors affecting rectal absorption. 2  
 (f) What are aerosols? Give advantages and disadvantages of aerosols. 3  
 (g) Discuss the containers used in aerosols. 3  
 (h) Give classification of cosmetic products. 2
- Q.2 (a) Give the significance of following in suspension formulation: 4  
 i. Zeta Potential  
 ii. Schulze Hardy Rule  
 (b) Describe large scale manufacturing including equipment for creams. 4  
 (c) Explain methods of filling of aerosol containers 4
- OR**
- (c) Write a note on propellants used in aerosols. 4
- Q.3. (a) Discuss formulation consideration of any one official preparation of suspension. 4
- OR**
- (a) Discuss symptoms of instability of suspensions. 4  
 (b) Explain the methods to evaluate skin penetration. 3  
 (c) Explain quality control tests for suspensions 3  
 (d) Write a note on antimicrobial preservatives used in cosmetics 2
- Q.4. (a) Explain methods of preparation of suspensions  
 (b) Describe large scale manufacturing of emulsions 3

**OR**

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- (b) Write a note on selection of emulsifiers based on HLB and Cloud point method. 4
- (c) Describe formulation of pastes. 2
- (d) Write a note on Schedule S and Schedule Q of cosmetics. 3

- Q.5. (a) Describe the formulation additives in the preparation of emulsions. 3
- (b) Describe rheological aspects of semisolids. 3
  - (c) Explain parts of an aerosol valve assembly. 3

**OR**

- (c) Write a note on metered dose valve. 3
- (d) Elaborate on microbial contamination in cosmetics. 3

- Q.6. (a) Explain DLVO theory in stabilization of suspensions. 3
- (b) Give classification and explain selection of suppository bases 4
  - (c) Explain the safety evaluation tests and spray pattern test for aerosols. 3
  - (d) Write in brief on colours used in cosmetics 2

**OR**

- (d) Write in brief on waxes used in cosmetics 2

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