

(3 Hours)

Total marks 80

- N.B. (1) All questions are compulsory.  
 (2) Figure to be right indicate full marks.  
 (3) Draw neat labelled diagram wherever necessary

1. (a) Give physiological consideration for parenteral route of administration. 2  
 (b) Write a note on evaluation of plastic as packaging material. 2  
 (c) Explain on drug-excipient compatibility in preformulation studies of liquid dosage form. 2  
 (d) Explain the principles of liquid mixing. 2  
 (e) Enlist fundamental properties of powders and explain specific surface area. 2  
 (f) Write in brief about conductivity method in particle size analysis. 4  
 (g) Give an account of polyesters as sutures. 2  
 (h) Elaborate on: - Collection and storage of whole human blood. 4
2. (a) Write in detail any two methods for preparation of syrup and justify, 'methyl cellulose is used in artificial syrup.' 4  
 (b) Enlist particle size analysis techniques and explain air permeability method. 4  
**OR**  
 Give an account of size reduction mill which works on principle of combined impact and attrition.  
 (c) Discuss Quality Control parameters for ligature and Suture. 4
3. (a) Give status of pharmaceutical industry in India. 2  
 (b) With the help of Flowchart explain large scale manufacturing of liquids. 4  
**OR**  
 Write in brief quality control test for monophasic liquid dosage form.  
 (c) Elaborate on dusting powder formulations. 4  
 (d) Give Salient features of blood banking procedure. 2
4. (a) Give a note on IP 2010. 2  
 (b) Discuss in brief types of Glass as packaging material. 4  
 (c) Explain various quality control tests of powders. 4  
 (d) Classify ligatures and Sutures. 2
5. (a) Explain the term solubility and write any one solubilisation technique in detail. 4  
 (b) Comment, 'Nasal drops must be isotonic formulation.' 2  
 (c) Explain in brief about blenders used for powder mixing. 2  
 (d) Discuss plasmapheresis in detail. 4  
**OR**  
 Explain Albumin and Gamma globulin preparations.
6. (a) What is the importance of Quality Assurance in Pharma Industry. 2  
**OR**  
 Discuss Asava and Arista formulations.  
 (a) Explain factors affecting the rate of filtration. 4  
 (b) Define Carr's Index & give its significance. 2  
 (d) What are the steps in production of clinical grade dextran by fermentation? 4