

(3 Hours)

(Total Marks: 80)

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

1. (a) Write importance of preformulation studies. 2
 (b) Comment on ancillary packs. 2
 (c) Define- Polymorph, Dissociation constant 2
 (d) Differentiate between aromatic waters and elixirs 2
 (e) Give applications of mixing process 2
 (f) Enlist fundamental properties of powder and explain specific surface area 4
 (g) Discuss metal as a suture material 2
 (h) Write in brief on hydrolyzed gelatin-based products 4
2. (a) Elaborate on construction and working of turbine mixers 4
 (b) Enlist particle size analysis techniques and explain air permeability method 4

OR

 Give an account of colloid mill
 (c) Discuss white cell concentrate 4
3. (a) Comment on history of profession of pharmacy in India in relation to pharmaceutical industry 2
 (b) Discuss mechanisms of filtration 4

OR

 Comment on large scale filling of monophasic liquids
 (c) Write in brief about formulation of reconstituted powders 4
 (d) Enlist different types of blood products 2
4. (a) Write a note on BP and BPC 2
 (b) Write a note on plastic as a packaging material 4
 (c) Explain the techniques for determination of particle surface area 4
 (d) Explain labeling and storage of whole human blood 2
5. (a) Describe working of plate and frame filter press 4
 (b) Elaborate on quality control test for monophasic liquids 2
 (c) Explain any one equipment for powder mixing. 2
 (d) Comment on sterilization of catgut 4

OR

 Explain fractionation of plasma
6. (a) What is the importance of GMP in the pharma industry? 2

OR

 Write a note on alternative systems of medicine with respect to Ayurveda
 (b) Write a note on Syrup USP 4
 (c) Explain size separation by sieving. 2
 (d) Elaborate on properties of dextran 4