

- N.B: (1) All questions are compulsory
(2) Figures to the right indicate full marks
(3) Draw neat sketches wherever required.

1. (a) Classify disperse systems. Comment on kinetic stability of dispersed systems. 3
(b) State various routes of drug penetration through skin. 2
(c) Define suppositories. What are the advantages of suppositories as a dosage form? 3
(d) What are the salient features of blood banking procedure? 2
(e) Outline the test for tensile strength of Catgut. 3
(f) What are the pharmaceutical applications of emulsions? 2
2. (a) With suitable layout explain the large-scale manufacturing of suspensions and elaborate on any one equipment. 4
- OR
- (a) Give account of quality control tests and stress testing of emulsions. 4
(b) Elaborate on Glycero-gelation suppository bases. 4
(c) Enlist various non-absorbable sutures. Write on non-absorbable suture of animal origin. 3
3. (a) Explain the following phenomenon in suspension: 4
(i) Wetting (ii) Electric double layer
(b) Write a note on: Plasma-pheresis OR Gamma globulin 4
(c) Outline the liquification test of suppositories. 3
4. (a) Give an account of raw materials used in semisolid preparations. 4
(b) Explain emulsifier selection by HLB method. 4
(c) Comment on molecular weight requirements of dextran and write labeling directions for dextran products. 3
- OR
- (c) What are the steps involved in production of clinical grade Dextran by fermentation?

5. (a) Justify - the rheology modifiers and electrolytes play key role in suspension formulation. 4
- (b) Write in detail on quality control tests for gels. 3
- (c) Give an account of manufacturing of suppositories by compression moulding. 4

OR

- (c) Discuss the problem of hygroscopicity and rancidity in suppositories bases. 3
6. (a) How the Catguts are sterilized? 3
- (b) Explain the instability symptoms in emulsions. 4

OR

- (b) Creaming is reversible where as breaking is irreversible. Comment. 4
- (c) Classify various penetration enhancers with their mechanism of actions. 4