

[Time: 3 Hours]

[ Marks:70]

Please check whether you have got the right question paper.

- N.B:**
1. All questions are **compulsory**.
  2. **Draw neat labeled diagrams wherever required**
  3. **Figures to the right indicate full marks.**

- Q.1 Answer the following
- a) Formulating a stable disperse system is a challenge to the formulator, Comment. 03
  - b) Name the methods to evaluate skin penetration. Give two examples of penetration enhancer 02
  - c) Give the advantages and disadvantages of suppositories 03
  - d) State the problems associated with blood products. 02
  - e) How is sterility of ligatures evaluated 03
  - f) Define Emulsions and discuss its advantages 02
- Q.2
- a) Explain in detail any one equipment used in large scale manufacturing of suspensions 04
- OR
- Discuss in detail Quality Control of Emulsions. 04
- b) Enlist the specifications of suppository bases and give the significance of any two specifications 04
  - c) Write a note on metallic wires used as sutures 03
- Q.3
- a) Describe the theoretical aspects of Sedimentation and Rheology in suspensions 04
  - b) Write a note on quality control aspects of blood products 04
- OR
- Write a note on Red Cell concentrate 04
- c) Explain the Disintegration Test for suppositories 03
- Q.4
- a) Give an account of Formulation additives in Semisolids 04
  - b) Name the various methods for selection of emulsifiers and explain any one in detail. 04
  - c) Write a note on preparation of Dextran as a Plasma substitute 03
- OR
- Write a note on hydrolyzed gelatin based products as plasma substitutes 03
- Q.5
- a) Discuss the Precipitation method for preparation of suspensions. 04
  - b) Outline the large scale manufacturing of creams 03
  - c) Explain any one equipment for large scale manufacturing of suppositories 04
- OR
- Elaborate on problems encountered during formulating suppositories. 04
- Q.6
- a) Describe the methods of sterilization of Catguts 03
  - b) Write a note on Auxiliary Emulsifiers. 04
- OR
- Discuss Physical Stability of Emulsions 04
- c) Write in detail on Penetration Enhancers 04