

Time : 3 Hours

Total marks: 80

Please check whether you have got the right question paper.

N.B:

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

1. a) Explain in brief oral route of administration. 02
  - b) Give an account of closures for pharmaceutical products. 02
  - c) Discuss on selection of vehicle for monophasic liquid dosage forms. 02
  - d) Write the working of turbine mixers. 02
  - e) Enlist the fundamental and derived properties of powders. 02
  - f) Elaborate on sieving method for particle size determination with advantages and limitations. 04
  - g) Write in brief about metallic wires. 02
  - h) What are blood components? Explain plasmapheresis. 04
  2. a) Define any four 04
    - i) Aromatic water
    - ii) Elixir
    - iii) Linctus
    - iv) Paint
    - v) Liniment
  - b) Explain different evaluation parameters for powders. 04
- OR**
- Explain principle and working of Ball mill.
- c) Classify sutures and ligatures. Comment on sterilization of catgut. 04
3. a) Write a note on historical development of pharmacy profession 02
  - b) Discuss equipments used for liquid mixing in large scale manufacturing operation. 04
- OR**
- Give an account of large scale filling operation of liquid oral dosage forms.
- c) Give formulation consideration for ORS. 04
  - d) Explain the need of blood products. 02
4. a) Write a short note on British Pharmacopoeia. 02
  - b) Discuss Quality control tests for glass as packaging material. 04
  - c) Enlist methods to determine particle size and explain microscopy method for particle size determination. 04
  - d) Write the essential properties of catgut. 02
  5. a) Explain importance of polymorphism & dissociation constant during preformulation study of monophasic liquid dosage forms. 04
  - b) Differentiate between lotion and liniments. 02
  - c) Elaborate on packaging methods used in large scale manufacturing of powders. 02
  - d) Write the quality control aspects of blood products. 04

**OR**  
Give a note on HETA starches & official Dextran products.

6. a) Give general features of Alternative systems of medicine.

02

**OR**

Write GMP requirements for building.

b) Describe containers and closures for liquid oral dosage forms.

04

c) Define porosity and give its applications.

02

d) Write in detail the sources and preparation of Dextran.

04