[Time: 3 Hours] **[Marks:70]**

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 labeled diagram wherever applicable.**

Q.1 (a)	Define drug and dosage form with example.	02
(b)	Discuss fate of drug in body in brief.	02
(c)	Calculate the quantities required to prepare 250gm of ointment containing zinc oxide :0.3% w/w and calamine 0.15% w/w.	01
(d)	Define Newtonian flow and non-Newtonian flow.	01
(e)	How are solutions prepared by chemical reaction? Explain the same with the example of Magnesium citrate oral solutions.	04

OR

Differentiate between syrup IP and NF. Explain any two methods to prepare syrup.

(f)	Write in brief about ORS.	02
(g)	Classify inclusion complexes with examples.	02
(h)	Enlist factors affecting dissolution.	01

Q.2 (a)	Compare oral and parenteral routes of administration.	03
(b)	Discuss Homeopathy system of medicine.	02
(c)	Explain importance of polymorphism during preformulation study of Monophasic liquid dosage form.	02
(d)	Discuss glass as a packaging material.	03

OR

Give an account of closure for liquids.

(e)	Enlist methods of analysis of complexes.	01

Q.3 (a)	Explain GMP with respect to personnel.	02
(b)	Give an account of Thixotropic flow.	02
(c)	Write the working of Turbine mixers.	02
(d)	Enlist methods to determine particle size and explain microscopy method for particle size determination.	04
(e)	Define diffusion and dissolution.	01

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Q.4 (a) Define **any three**: 03

    i) Liniments

    ii) Enemas

    iii) Aromatic water

    iv) Throat paints.

  (b) Calculate % w/w concentration of a drug solution having 15% w/v concentration and 02

    density of 1.09g/ml.

  (c) Discuss the stabilizers used in liquid preparations. 02

  (d) Explain principle of size separation by cyclone separator. 02

  (e) State and explain Noyes Whitney equation. 02

Q.5 (a) Write in brief about Pharmaceutical Industry in India. 02

  (b) Explain any one method to determine Newtonian type of flow of liquid. 02

  (c) Write in brief about leaf filter. 03

  (d) Explain the principle of operation of Hammer mill and Ball mill. 04

Q.6 (a) What is pharmacopoeia? Explain in brief about British pharmacopoeia. 03

  (b) What is drug efficiency and does response. 02

  (c) Explain Quality control tests for monophasic liquid dosage forms. 04

  (d) Discuss in brief the parameter used to assess the flow property of powders. 02

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