



What are microspheres? Enlist different methods of preparation of microspheres and explain any two methods in detail.

2. Define niosomes. What are their formulation components? Explain the principle and procedure of ether injection and Rotary flash evaporation techniques of their preparation in detail.
3. Explain in detail biological processes involved in drug targeting.
4. What are the different types of intranasal drug delivery systems.

**SHORT ESSAY (Answer any Nine)**

**9 X 5 = 45 Marks**

5. Differentiate between phytosomes and liposomes with the help of a neat diagram. Add a note on their respective therapeutic applications.
6. Write the evaluation parameters for microspheres.
7. Describe the formulation of insitu gelling nasal dosage forms.
8. Explain in detail any two techniques of drug targeting.
9. Write a note on drinking water medication and tubing product in veterinary dosage forms.
10. Describe oral pastes and gels for veterinary use.
11. Write a note on different containers used for aerosols.
12. Describe Monoclonal antibodies. Add a note on their preparation.
13. Explain different types of aerosol filling techniques.
14. What are polymeric nanoparticles? Add a note on their advantages and disadvantages.

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