



Explain the parenteral production process with a neat diagram.

2. Describe the area planning and environmental control in parenteral production.
3. Explain the improved manufacturing and filling of hard and soft gelatin capsules.
4. Write a note on techniques and maintenance of RO and DM.

**SHORT ESSAY (Answer any Nine)**

**9 X 5 = 45 Marks**

5. With a neat diagram explain the granulation and pelletization equipments
6. Explain continuous and batch mixing.
7. Explain the principle, construction and working of spheronizers.
8. Write a note on fluidized bed coating and problems encountered.
9. Write about the change rooms, personnel flow and utilities in parenteral production.
10. Explain the principle, construction and working process of freeze drying equipments.
11. Write a note on mixers and mills used in the production of disperse systems.
12. Explain the package print of different dosage forms.
13. Explain the techniques of production of WFI.
14. Describe Air handling unit with a neat diagram.

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