

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Pharm Degree Examination – JAN-2019

Time: Three Hours**Max. Marks: 70 Marks**

PHARMACEUTICAL ENGINEERING

(RS - 4)

Q.P. CODE: 2638

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary.

LONG ESSAYS (Answer any Two)**2 x 10 = 20 Marks**

1. Describe the importance of conveyors in pharmaceutical industry. Write the working principles and advantages of basket conveyors and pneumatic conveyors.
2. Explain the theory of drying. Explain principle and application of steam distillation.
3. List the equipments used for solid-solid mixing. Describe the construction, working and applications of V- cone blender and planetary mixer.

SHORT ESSAYS (Answer any Six)**6 x 5 = 30 Marks**

4. Explain the different modes of heat flow.
5. Write the principle and construction of falling film evaporator.
6. Explain the theory of crystallization.
7. With a neat labelled diagram, explain the functioning of freeze dryer with its applications.
8. Explain the theory of evaporation. Mention the factors affecting rate of evaporation.
9. Describe the construction, working and application of meta filter.
10. Explain the principle and working of hammer mill.
11. What are azeotropic mixtures? How are they separated?

SHORT ANSWERS**10 x 2 = 20 Marks**

12. What are the reasons for caking of crystals?
13. Define centrifugation. List out the equipments used for centrifugation.
14. What are filter aids? Give examples.
15. Differentiate ideal and actual screens.
16. Applications of stainless steel as a construction material.
17. How ion exchange resins are useful in water purification?
18. Name a suitable crystallizer to get a) large sized crystals b) large quantity of crystals
19. Write Kozeny-Carman's equation. Explain the terms.
20. Suggest the method to measure the relative humidity of the area?
21. Define steady state and unsteady state with example.
