

Rajiv Gandhi University of Health Sciences, Karnataka

Third year B.Pharm Degree Examination – August 2010

Time: Three Hours**Max. Marks: 80 Marks**

PHARMACEUTICAL ENGINEERING (Revised Scheme - 2)

Q.P. CODE: 1964

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 principle, construction, working, advantages and disadvantages of 'Plate and frame filter press'
2. Explain the construction and operational details of freeze dryer. Describe its applications in pharmacy
3. a) Write the theory of crystallization explaining methods of producing a super saturated solution (b) Write the importance of solubility curves drawing a few typical solubility curves

SHORT ESSAYS (Answer any Eight)**8 x 5 = 40 Marks**

4. What are possible industrial hazards? How can they be prevented?
5. Discuss various methods of combating corrosion
6. What are the properties of glass? What are its applications as a material of construction?
7. Explain the principle and working of an air-conditioner
8. Explain the principle and operational details of spray dryer with a suitable diagram
9. Enumerate factors influencing evaporation. Explain any four of them in detail
10. Explain with relevant procedure for the separation of an azeotropic mixture
11. Describe the theory of centrifugation
12. Enumerate mechanisms of filtration. Differentiate surface filtration and depth filtration
13. What are the reasons for vortex formation? Suggest suitable solutions for the problems of vortex formation

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

14. Differentiate ideal and actual screens
15. Name the official grades of powders
16. How is the inclusion of a sieve in size reduction equipment useful?
17. Differentiate the mechanisms, attrition, and impact in size reduction
18. State and explain Stefan Boltzman's law of heat radiation
19. Write the final equation for heat transfer by conduction through resistances in series and explain the terms
20. Write the advantages of screw conveyor
21. Name a preferred crystallizer for a) obtaining large sized crystals b) Crystallizing thermolabile substances
22. Suggest a preferred dryer for a) pasty materials b) colloidal solution
23. Explain the term 'Economy of an evaporator'