Rajiv Gandhi University of Health Sciences, Karnataka

Third Semester B. Pharm Degree Examination – 01-Jul-2022

Time: Three Hours **Max. Marks: 75 Marks**

PHARMACEUTICAL ENGINEERING
Q.P. CODE: 5012

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

LONG ESSAYS **2 x 10 = 20 Marks**

1. Derive Bernoulli's equation stating the assumptions.

   OR

   Derive an equation for heat transfer through a metal wall using Fourier's law.

2. Explain the theory of drying giving more emphasis on rate relationship using a suitable drying curve.

SHORT ESSAYS **7 x 5 = 35 Marks**

3. Describe aseptic grinding process of antibiotics using fluid energy mill.

   OR

   Write the principle, advantages and disadvantages of Sieve shaker.

4. Write principle, construction and working of climbing film evaporator.

   OR

   Write the theory and applications of molecular distillation.

5. Write the principle, construction and working of Silverson emulsifier.
6. Describe the construction and working of a preferred filter suitable for filtration of viscous liquids.
7. Write the principle, construction and working of super centrifuge.
8. Describe steel as a material of pharmaceutical plant construction.
9. Explain the measures to check the problems of corrosion.

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

10. Enumerate the mechanisms of size reduction with suitable examples of mills.
11. Define moderately fine powder.
12. How is it possible to separate the vapour and liquid in a forced circulation evaporator?
13. How is distillation different from evaporation?
14. Give the reasons for difference in the drying rate of spray dryer and fluidized bed dryer.
15. List four applications of mixing of solids.
16. How is clarification different from filtration?
17. How is sedimentation centrifugation different from filtration centrifugation?
18. Explain galvanic corrosion.
19. Explain the concept of solid transport by fluidization.

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