

# Rajiv Gandhi University of Health Sciences, Karnataka

## Third Semester B. Pharm Degree Examination – 09-Dec-2020

**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.

#### **LONG ESSAYS (Answer any Two)**

**2 x 10 = 20 Marks**

1. Derive Bernoulli's equation stating the assumptions. List the applications of Bernoulli's theorem.
2. State Fourier's law. Derive an equation for heat transfer by conduction through a metal wall. Enumerate the applications of Fourier's law.
3. Discuss the principle, construction, working, advantages and disadvantages of spray dryer.

#### **SHORT ESSAYS (Answer any Seven)**

**7 x 5 = 35 Marks**

4. Explain with the help of a diagram the construction and working of a ball mill.
5. Explain the working of a cyclone separator and its usefulness.
6. Explain the construction and working of climbing film evaporator.
7. Explain the principle and procedure of molecular distillation. What are its applications?
8. List the reasons for vortex. What are the drawbacks of vortex? Suggest solutions for the problems of vortex formation.
9. Describe the construction and working of leaf filter.
10. Discuss construction and working of a perforated basket centrifuges.
11. Name five important classes of plastics. Mention their applications in pharmaceutical industry.
12. Define corrosion. Explain its causes. Classify corrosion.

#### **SHORT ANSWERS (Answer All)**

**10 x 2 = 20 Marks**

13. List various grades of powders official in pharmacopoeia.
14. What is the difference between sedimentation and elutriation?
15. State Raoult's law.
16. Enumerate the factors affecting rate of evaporation.
17. List two uses of the sigma blade blender.
18. Define bound water and free moisture content.
19. List the applications of basket centrifuges.
20. State the mechanism of filter aids.
21. List two objectives of conveying of solids.
22. Explain how oxide films are formed. State its advantage.

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