

**VINAYAKA MISSION'S RESEARCH FOUNDATION, SALEM**  
**(Deemed to be University)**

**B.PHARM. DEGREE EXAMINATION – October 2021**  
**Eighth Semester**

**ELECTIVE – PHARMACEUTICAL PRODUCT DEVELOPMENT**

Time : Three hours

Maximum: 75 marks

I. Write essays on any **TWO** questions: (2 x 10 = 20)

1. Discuss the optimization parameters and different optimization techniques in formulation development.
2. Explain in detail regulatory considerations in packaging of the pharmaceuticals.
3. Explain in detail various aerosol products with examples.

II. Write short answers on any **SEVEN** questions: (7 x 5 = 35)

4. Applications of QbD.
5. Suspending agents.
6. Tablet coating.
7. Various types of gelatin capsules.
8. Semisolid preparations.
9. Seal packaging.
10. Labelling methods.
11. Solubilizers in pharmaceutical formulations.
12. Factorial design.

III. Write short notes on : (10 x 2 = 20)

13. Film coating.
14. Polyethylene glycol.
15. Cream.
16. Sieving granules.
17. Enteric coating.
18. Emulsifying agents.
19. Parenteral sealing methods.
20. Additive effect.
21. Effervescent granules.
22. Sweetening agents.