

**[Time: 3 Hours]****[Max. Marks: 75]****Modern Pharmaceutics****Q.P. CODE: 5129**

Your answers should be specific to the questions asked.

Draw neat, labeled diagrams wherever necessary.

**LONG ESSAY (Answer any Three)****3 X 10 = 30 Marks**

1. What is compression and compaction? Explain process of compression in detail.
2. Define optimization. Classify and explain in detail full and fractional factorial design.
3. Explain steps involved in Product Validation.
4. What are SMEDDs? Explain in detail composition and stability aspects of SMEDDs.

**SHORT ESSAY (Answer any Nine)****9 X 5 = 45 Marks**

5. Explain formulation of sterile emulsion.
6. Explain essential components of TQM.
7. Define dissolution. Explain factors affecting dissolution.
8. Explain the effect of particle size and lubricant on strength of the tablet.
9. Explain significance of similarity factors and ANOVA test.
10. Mention objectives of production planning. Explain elements of production control.
11. Explain V-model approach for qualification and validation.
12. Define inventory management. Mention its objectives. What are the factors affecting inventory?
13. Explain in brief solubility enhancement techniques.
14. Explain prospective and concurrent validation.

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