

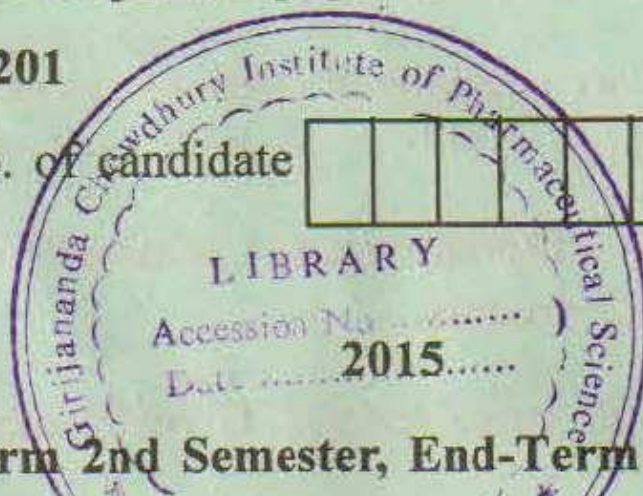
01.06.15 (M.Pharm Reg.)

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PY 134201

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M.Pharm 2nd Semester, End-Term Examination

**DOSAGE FORM DESIGN AND
PRODUCT DEVELOPMENT**

Full Marks – 100 Pass Marks – 35 Time – Three hours

The figures in the margin indicate full marks
for the questions.

1. Answer the following questions (any *ten*) :
2×10=20
- (i) Write the stages of tablet compression system.
 - (ii) Classify tablet machine on the basis of station of tooling.
 - (iii) Differentiate between “B” tooling and “D” tooling rotary machine.
 - (iv) Give examples of two pH-dependent polymer used as enteric coating material.

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- (v) What are orange-peel effects ?
- (vi) What are specialized coatings systems ? Give examples.
- (vii) Enlist different steps involved in sugar coating process.
- (viii) What is co-solvency ? Give examples.
- (ix) Mention the different methods of manufacturing of DPI.
- (x) Write the functions of propellants in aerosol package.
- (xi) Mention different types of actuators used for pharmaceutical aerosols.

2. Answer the following questions (any *ten*) :

3×10=30

- (i) Discuss the merits of aerosol dosage form over other dosage form.
- (ii) Enlist and explain different parts of valve assembly of aerosol package.
- (iii) Mention different criteria of ideal preservatives of oral liquid preparation.
- (iv) Write different methods to achieve higher output of tablet production system.

- (v) What are performance and regulatory requirements for DPIs ?
- (vi) Write a note on ANOVA.
- (vii) Discuss the processing and formulations of DPIs.
- (viii) Mention the significance of microbiological evaluation of an aseptic area.
- (ix) Application of rheological principles in formulation development.
- (x) Explain hypothesis testing in experimental design.
- (xi) What are the criteria for selection of dermatological vehicles ?

3. Answer the following questions (any *ten*) :

5×10=50

- (i) Give a detail note on dermatological vehicles and terms used to explain rheological behaviour.
- (ii) Discuss various test masking techniques used in pharmaceutical product development.
- (iii) What is parenteral admixture ? Discuss parenteral admixture and incompatibility with suitable examples.

- (iv) What are the objectives of pharmaceutical process optimization? Write a note on classic optimization.
- (v) Discuss the monitoring and control of tableting processes in large scale production.
- (vi) Describe the essential requirements in a pilot plant scale up unit and various functions of a pilot plant team.
- (vii) Describe the various steps involved in large scale manufacturing of soft gelatin capsule under optimization conditions.
- (viii) Discuss the types of problem arises in optimization of a formulation. Explain simplex method of optimization with diagram.
- (ix) Discuss fluid dynamics of IV control system.
- (x) Discuss stability testing and quality control for pharmaceutical aerosols.
- (xi) Discuss formulation consideration of pharmaceutical liquid preparation. Explain vacuum filling with schematic diagram.