



Name :

Roll No. :

Invigilator's Signature :

CS/B.Pharm/SEM-8/PT-809B/2010
2010
ADVANCED PHARMACEUTICS

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP - A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) Pharmacological activity of a protein type drug will be lost if
- a) secondary structure is destabilised
 - b) tertiary structure is destabilised
 - c) quaternary structure is destabilised
 - d) any one of the primary, secondary, tertiary and quaternary structures is destabilised.
- ii) Particulate drug-delivery system containing an intimate mixture of drug and the core material is known as
- a) Capsur
 - b) Monolithic
 - c) Emulsion
 - d) none of these.

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- iii) If concentration of lubricant increases in the preparation of tablet then
- disintegration time increases
 - disintegration time decreases
 - disintegration time remains same
 - none of these.
- iv) When there is enough moisture to decompose all of the drug substances, it is known as
- Excess water
 - Adequate water
 - Limited water
 - all of these.
- v) Instrument used for the determination of particle size and morphology of nanoparticle is
- DSC
 - X-RD
 - FT-IR
 - SEM.
- vi) The idea of drug targeting to a specific site in the body was first introduced by
- Ehrlich
 - Eichler
 - Franssen
 - Duncan.
- vii) β -cyclodextrin is a polymer of
- natural origin
 - synthetic origin
 - semi-synthetic origin.
- viii) The pharmaceutical suspension formulation degrades via
- Zero order kinetics
 - First order kinetics
 - Second order kinetics.



- ix) Which one of the following functions is performed during compression ?
- Compression of granulation
 - Size reduction
 - Blending.
- x) Positive displacement pumps used in preparation of semi-solid products are known as
- transfer pumps
 - peristaltic pumps
 - vacuum pumps.
- xi) Heckel plot characterizes
- the behaviour of solid body
 - the behaviour of a material in bonding
 - the behaviours of liquids.
- xii) Which one of the following contains one major benefit of improved tablet production systems ?
- Decreased energy savings
 - Increased production capacity & flexibility
 - Shortened process control.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

- Describe Lesson-Mattocks model.
- Write a note on preparation of nanoparticles.
- Describe rate equations involved in interaction of moisture with solids.
- Explain the significance of pilot plant scale-up studies.
- Write a short note on micro-particulate drug delivery system.



GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. What are the barriers for the oral delivery of protein drugs ? Explain in detail. How would you evaluate the stability of protein in a formulation ? $10 + 5$
8. a) What do you mean by pilot plant scale-up techniques ?
b) Give the space requirements and formula review for pilot plant scale-up technique in manufacturing operations.
c) Write a note on granulation and drying operation during pilot plant scale-up of a tablet dosage form. $3 + 6 + 6$
9. a) What do you mean by targeted drug delivery system ?
b) Describe the rationale behind targeted drug delivery system.
c) Write a note on liposomal drug delivery system. $2 + 5 + 8$
10. a) What are the benefits of improved tablet production system design ?
b) Describe in brief about improved tablet production system by improving materials handling. $7\frac{1}{2} + 7\frac{1}{2}$
11. a) Write a note on distribution of force during compression of granules into tablets.
b) Give the relationship between compressional force and various properties of tablets.
c) Describe Heckel plots. $6 + 4 + 5$
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