	<u>Ulech</u>
Name:	
Roll No. :	A Agency (VI) residing 2nd Explicate
Invigilator's Signature :	

CS/B.PHARM(OLD)/SEM-8/PT-809B/2012

2012

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 the following: $10 \times 1 = 10$
 - i) Which one of the following functions performs during compression?
 - a) Compression of granulation
 - b) Size reduction
 - c) Blending.
 - ii) Which one of the following contains one major benefit of improved tablet production system?
 - a) Decreased energy savings
 - b) Increased production capacity & flexibility
 - c) Shortened process control.
 - iii) The primary hydrolytic reactions in protein degradation are
 - a) peptide bond hydrolysis and decarboxylation
 - b) peptide bond hydrolysis and deamidation
 - c) Racemization and deamidation.

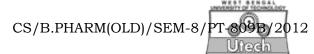
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- iv) β -cyclodextrin is a polymer of
 - a) natural origin
 - b) synthetic origin
 - c) semi-synthetic origin.
- v) Nanoparticles mean particles in the range of
 - a) 10 nm to 1000 nm
 - b) 1000 nm to 5000 nm
 - c) 1 nm to 10 nm.
- vi) Phagocytosis means
 - a) capture of particulate matter
 - b) engulfment of fluids
 - c) diffusion of particulate matter through cell.
- vii) Positive displacement pumps used in preparation of semi-solid products are known as
 - a) transfer pumps
 - b) peristaltic pumps
 - c) vacuum pumps.
- viii) The pharmaceutical suspension formulation degrades via
 - a) zero order kinetics
 - b) first order kinetics
 - c) second order kinetics.
- ix) Heckel plot characterizes
 - a) the behaviour of solid body
 - b) the behaviour of a material in bonding
 - c) the behaviours of liquids.

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- x) The unit of reaction rate constant in 1st order is
 - a) $mol sec^{-1}$
 - b) \sec^{-1}
 - c) $\text{mol}^{-1} \text{sec}^{-1}$.

GROUP - B

(Short Answer Type Questions)

Answer any *three* of the following.

 $3 \times 5 = 15$

- 2. How do you evaluate the stability of protein in formulation?
- 3. Explain the significance of pilot-plant scale up studies.
- 4. Describe Lesson-Mattocks model.
- 5. Describe in short about the advantages of improved tablet design.
- 6. Write a note on preparation of nanoparticles.

GROUP - C

(Long Answer Type Questions)

Answer any *three* of the following.

 $3 \times 15 = 45$

- 7. Define validation. Describe the steps involved in the validation process of tablet production. 3 + 12
- 8. a) Write the rationale for targeted drug delivery system.
 - b) Write a note on liposomes.

7 + 8

- 9. Describe in detail about the physics of compression of tablets.
- 10. a) Describe pro-drug approach to prepare targeted drug delivery system.
 - b) Describe the measurement of compressional force.
 - c) Describe Heckel plot.

7 + 4 + 4

11. Write in detail about pilot-plant scale up techniques of oral liquid dosage forms.

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