



Name : .....  
Roll No. : .....  
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.



- iv)  $\beta$ -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.



x) The unit of reaction rate constant in 1st order is

- a)  $\text{mol sec}^{-1}$
- b)  $\text{sec}^{-1}$
- 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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