

FINAL YEAR B.PHARM. SEMESTER-VII (CBCS - 2015 Course) :

SUMMER - 2019

SUBJECT : BIOPHARMACEUTICS AND PHARMACOKINETICS

Day : Thursday
Date : 02/05/2019

S-2019-4408

Time : 02.00 PM TO 05.00 PM
Max. Marks : 60

N.B.

- 1) Q. No. 1 and 5 are **COMPULSORY**. Out of the remaining attempt **ANY TWO** questions from each section.
 - 2) Figures to the **RIGHT** indicate **FULL** marks.
 - 3) Answers to both the sections should be written in **SEPARATE** answer book.
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SECTION – I

- Q.1** Answer the following. (**ANY FIVE**) (10)
- a) How is Vitamin B₁₂ and Polio vaccine absorbed when administered orally?
 - b) What are the approaches to target polar drugs to brain?
 - c) What is meant by entero-hepatic cycling? Give its significance.
 - d) What is BBB and placental barrier?
 - e) Define volume of distribution and clearance. Give their equations.
 - f) Enlist the Phase II reactions of biotransformation and give its significance.
- Q.2** Explain the influence of following factors on drug absorption. (10)
- a) Drug pKa and GI pH
 - b) Gastric emptying rate
- Q.3** Explain simple cell membrane barrier and blood brain barrier with respect to drug distribution. (10)
- Q.4** Write short notes on **ANY TWO**. (10)
- a) Significance of protein binding
 - b) Passive diffusion process of drug absorption
 - c) Factors affecting renal clearance

SECTION – II

- Q.5** Answer the following. (**ANY FIVE**) (10)
- a) What are AUC and AUMC?
 - b) What is cross over design?
 - c) Explain the pharmacodynamic parameters.
 - d) Highlight the disadvantages of compartmental modeling.
 - e) What are the causes of nonlinear kinetics?
 - f) Explain dosage regimen and therapeutic window.
- Q.6** What are the different pharmacokinetic models? Give a detailed account of the same. (10)
- Q.7** Explain in detail Wagner-Nelson method and Sigma minus method. (10)
- Q.8** Write short notes on **ANY TWO**. (10)
- a) Bioequivalence studies
 - b) Physiological modeling
 - c) Pharmacokinetic methods for determination of bioavailability

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