FINAL YEAR B.PHARM. SEMESTER-VII (2011 COURSE) : WINTER - 2017

SUBJECT: BIOPHARMACEUTICS AND PHARMACOKINETICS

Day : Thursday
Date : 16/11/2017

W-2017-3846

Time : 02.00 PM TO 05.00 PM
Max. Marks : 80.

N.B.:

1) Q. No. 1 and Q. No. 5 are **COMPULSORY.** Out of the remaining attempt any **TWO** questions from Section-I and any **TWO** questions from Section-II.
2) Both the sections should be written in **SEPARATE** answer books.
3) Figures to the **RIGHT** indicate full marks.

SECTION-I

Q.1 Answer the following in short (Any **Five**) **(10)**

a) What is meant by rate determining step in the process of drug absorption?
b) Define volume of distribution and give its equation.
c) Enlist the Phase II reactions of biotransformation and give its significance.
d) Explain the mechanism of transport of Vit B_{12}.
e) Give dose adjustment in case of renal failure patients.
f) What is enterohepatic circulation?

Q.2 **a)** What is gastric emptying? Explain the factors influencing gastric emptying. **(07)**
b) Explain the different physiological barriers to the drug distribution. **(08)**

Q.3 **a)** Explain the influence of particle size on drug absorption from GIT. **(07)**
b) Give an account of drug interactions and highlight its significance. **(08)**

Q.4 Write notes on (Any **Two**) **(15)**

a) Passive diffusion process for drug transport
b) pH-partition hypothesis
c) Significance of protein drug binding.

SECTION-II

Q.5 Answer the following in short (Any **Five**) **(10)**

a) Explain trapezoidal rule.
b) Define clinical pharmacokinetic and pharmaceutical equivalents.
c) What are the advantages of urinary data over plasma data.
d) Define MRT. Give equation.
e) Give the advantages of compartmental modelling.
f) Give the objectives of bioavailability studies.

Q.6 Discuss the method of residuals for determination of absorption rate constant following oral administration of drug assuming one compartment open model. **(15)**

Q.7 **a)** Give an account of physiological modeling. **(07)**
b) Discuss the approaches for enhancement of bioavailability. **(08)**

Q.8 Write notes on (Any **Two**) **(15)**

a) Pharmacokinetic methods for determination of bioavailability
b) Assessment of pharmacokinetic parameters following IV bolus administration for one compartment open model
c) Statistical designs for BA/ BE studies.

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