Birla Institute of Technology and Science, Pilani (Rajasthan)

Second Semester (2022-23)

PHA F418: Biopharmaceutic and Pharmacokinetics

Mid-Sem Examination (Closed Book)

Max. Marks: 25 **Duration: 90 Min**

Q.1. **(A)** Reducing in particle size of some drugs does not enhance their rate of dissolution. Give four probable reasons for this.

(B) Give a brief description of the effects of gastrointestinal pH on dissolution, absorption, stability of a drug and, also on disintegration of oral tablet dosage forms.

[2+4= 6.0 M]

Q.2. **(A)** Two drugs 'A' and 'B' would be distributed in a similar pattern if they show 100% absorption from their tablet dosage forms. Do you agree with the statement? Give proper justification in support of your answer.

(B) Why blood-brain barrier is considered as a formidable barrier for brain delivery of drugs? Mention four different approaches used to enhance brain delivery of drugs across blood-brain barrier.

[2+(2+2)= 6.0 M]

Q.3. **(A)** **"**Area under the curves of two different dosage forms of an antihypertensive drug, felodipine, were observed to be 2101.50 ng.h/ml and 2075.25 ng.h/ml respectively."

On the basis of aforementioned observation, both the dosage forms could be considered as therapeutically equivalent. Do you agree with the conclusion? Give detailed justification in support of your answer.

(B) Briefly describe four essential features of phase II biotransformation process.

[3+3=6.0 M]

Q.4. **(A)** Give a brief description of the effect of drug interactions on renal excretion.

(B) What do you mean by (i) Circadian rhythm and (ii) Efflux transporters?

[5+2=7.0 M]

All the best